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ANNUAL REPORT • DEPARTMENT OF NATIONAL HEALTH AND WELFARE • OTTAWA, 1954

# HEALTH WELFARE

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CANADA

THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE  
**ANNUAL REPORT**

FOR THE FISCAL YEAR  
ENDED MARCH 31

**1954**



Edmond Cloutier, C.M.G., O.A., D.S.P.,  
Printer to the Queen's Most Excellent Majesty  
Ottawa, 1954





*To His Excellency The Right Honourable Vincent Massey, C.H., Governor-General and Commander-in-Chief of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1954.

Respectfully submitted,

PAUL MARTIN,  
*Minister of National Health and Welfare.*

OTTAWA, April 1, 1954.





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*To the Honourable Paul Martin, Q.C., M.P., LL.D., Minister of National Health and Welfare, Ottawa.*

SIR:

During the year under review, continued progress was evident in the various areas of departmental responsibility for health, welfare and civil defence. Among the highlights of the year's activities, four developments stand out: the introduction of three entirely new health grants; the passage of the revised Food and Drugs Act; the announcement of the Government's intention to introduce a nation-wide program of disability allowances; and the establishment of the new Canadian Civil Defence College.

The widening scope of the Department's activities is indicated by the increase over the previous year of some \$45,000,000 in the amounts voted by Parliament for its work. It should be noted, however, that more than 90 per cent of this increase was accounted for simply by the growth in the nation's population which added to the numbers benefiting under the four major social welfare programs of old age security, family allowances, old age assistance and allowances for the blind.

For the work of the Health Branch, there was an increase of some \$4,000,000 in the Departmental estimates. Of this amount, \$2,500,000 provided for the expansion of the National Health Program by the introduction of the three new grants already referred to. Other health activities requiring increased expenditures included the administration of the Quarantine and Leprosy and the Food and Drugs Act; the expanded service for the treatment of sick mariners; the operation and maintenance of the Laboratory of Hygiene; and the divisions of Public Health Engineering, Civil Service Health and Health Insurance Studies. There was also a significant expansion in the health services provided for Indians and Eskimos which necessitated a correspondingly higher appropriation of public funds for this purpose.

The year marked the turning of the first sod for the new Food and Drug headquarters in Tunney's Pasture. The commencement of construction on this new building to replace the inadequate and outmoded accommodation for the Divisions' laboratory and administrative services coincided with the passage in Parliament of the new Food and Drugs Act, which was not proclaimed, however, until July 1, 1954.

During the year under review, a study was also made of the regulations under this Act to bring them into conformity with modern practice. A technical committee examined all existing regulations with a view to eliminating those which had become obsolete and revising others in the light of the new legislation. In this matter, there was close consultation with representatives of the food and drug industries, in keeping with the Department's established practice. In the new Act and Regulations, special emphasis is placed on the control of food at the source of manufacture and there will in future be greater supervision over sanitary conditions in manufacturing establishments.

As the result of a conference of federal, provincial, municipal and other authorities and agencies interested in the narcotic drug problem, it was decided to undertake, during the year under review, a survey in the Province of British Columbia. The purpose of this survey is to obtain more accurate information on the number of addicts, their motivations and problems, and

other information which might lead to more effective measures for the control of drug addiction. With assistance from the Federal Government, this survey is now in progress.

In addition, extensive studies were commenced in relation to the proposed revision of the Opium and Narcotic Drug Act and Regulations. Contemplated amendments are intended, first, to facilitate the legitimate use of narcotic drugs by removing what is presently regarded as an unnecessary degree of rigidity in certain requirements of the law affecting medicated narcotic products and, secondly, a strengthening of the provisions of this law insofar as they are concerned with the illicit distribution of narcotic drugs.

The new virus laboratories for the Department's Laboratory of Hygiene, also located at Tunney's Pasture, neared completion at the close of the year. This building will provide greatly improved facilities for the study of virus diseases, while at the same time containing engineering and structural features designed to provide maximum protection for staff working with infectious materials.

The Department continued its participation in the program to provide gamma globulin to help combat poliomyelitis. The incidence of this disease during the calendar year 1953 was the most serious in Canada's history. Federal grants assisted the Canadian Red Cross Society in the procurement of blood and underwrote production of gamma globulin at the Connaught Medical Research Laboratories in Toronto. A committee of experts representing federal and provincial health departments as well as outside technical consultants allocated the distribution of the limited supplies of this blood fraction to those areas where the need was greatest.

At year's end, the field work needed to produce the first report on the representative average weights of Canadians had been computed by the Nutrition Division, according to a sampling plan prepared by the Dominion Bureau of Statistics. It is expected that the tables to be published as a result of this study will form a useful step in research on the relation of diet to the degenerative diseases that now take such a heavy toll.

Another health study is worthy of mention—the investigation of the dental effects of water fluoridation at Brantford which the Dental Health Division continued during the year, using the cities of Sarnia and Stratford as controls.

As indicated earlier, the National Health Program has been extended by the addition of three new grants to provide assistance to the provinces in developing better health services for mothers and children; improved medical rehabilitation services for the disabled; and more extensive facilities for the diagnosis of illness. These three grants—Child and Maternal Health, Medical Rehabilitation, and Laboratory and Radiological Services—beginning at \$5,300,000, will increase over a five-year period to a maximum of \$10,800,000 in 1957-58. The announcement of these new grants in May, 1953, marked the fifth anniversary of Canada's National Health Program. During the year total expenditures under this system of federal health grants passed the \$100 million mark.

A number of reports were completed by the Research Division during the year, including the Survey of Welfare Positions, prepared at the request of a National Conference on Personnel in Social Work, and Voluntary Medical Care Insurance, a study of non-profit medical care plans in Canada. Other studies completed by the Department's Research Division included a Comparative Study of Social Security Expenditures in Australia, Canada, Great

Britain, New Zealand and the United States; a Survey of Physicians in Canada; a bulletin on the Manitoba Nurse Survey and a report for the United Nations on Child and Family Welfare in Canada.

On the welfare side, there was a steady and continuing growth in the coverage provided under the major social welfare measures administered in whole or in part by the Department. At year's end, 4,942,000 children in 2,116,000 families were benefiting under the Family Allowances program with payments for the year exceeding \$350,000,000. Expenditures on old age security reached a total of more than \$340,000,000 in providing the universal old age security pension to over 716,000 persons 70 years of age and over.

For the federal-provincial old age assistance and blindness allowances programs, the combined federal contribution during the year exceeded \$23,000,000. Under the first of these, the Old Age Assistance Act, over 93,000 needy persons 65 and over received allowances totalling more than \$40,000,000 of which the federal share was fifty per cent. The Federal Government also contributed seventy-five per cent towards the cost of allowances for 8,200 blind pensioners. For this program, the federal share approximated \$3,000,000.

Towards the end of the year under review, civil defence began to take on an entirely new emphasis. Disclosures concerning the terrible destructive potential of thermonuclear weapons forced Canada, like other free nations, to reappraise its whole concept of the nature and scale of civil defence preparations. Just two days before the end of the fiscal year, the Department officially opened the Canadian Civil Defence College at Arnprior in recognition of the continuing need for realistic civil defence measures and for a stepped-up program of training for instructors and key workers.

To focus public attention on the importance of civil defence in Canada, the Information Services and the Civil Defence Divisions jointly sponsored the "On Guard Canada" Convoy. This Convoy, which travelled from coast to coast, consisted of seven large trailer trucks and other vehicles. It enabled half a million Canadians from Halifax to Vancouver to see displays and exhibits highlighting Canada's civil defence program and the necessity for preparedness in time of peace or war. The "On Guard Canada" display was adapted from a United States civil defence project which had toured that country during the previous year. A number of Canadian business firms made substantial contributions to the success of the undertaking by providing vehicles, drivers and other equipment and supplies.

The increased emphasis on civil defence was evident in the fact that federal civil defence expenditures for the year under review exceeded those in all the previous years from 1948 to March 31, 1953. The Federal Government continued to provide leadership in training instructors, developing a medical stockpile, improving the early warning system and assisting such essential projects as the standardization of hose-couplings—to mention a few specific activities. While the major operational responsibility for civil defence belongs to local and provincial authorities, the Department continued to act as a national co-ordinating agency.

Co-operation, which is the key to success in civil defence, also characterizes many other aspects of the Department's work. As in the past, the Department continued to work closely with the various voluntary agencies and professional groups in the health and welfare fields and, during the year, effective two-way co-operation was very much in evidence. There was also a close and cordial working relationship with the appropriate agencies of the ten provincial governments.

Finally, it is significant to note that the Department's augmented administrative responsibilities, reflected in the increased appropriations for the year under review, were successfully assumed with only a modest increase in staff. At March 31, 1954, the Department's total staff numbered 3,696—an increase of 268 over the preceding fiscal year. Of this number, 145, or more than half, were required to staff the Department's expanded health services for Canada's native population of Indians and Eskimos. There was an addition of 67 for Civil Defence, the majority for the new Civil Defence College at Arnprior. Small increases were also required for the administration of the expanded Old Age Security and Family Allowances programs and to provide for increased overseas services for the medical examination of prospective immigrants.

The success of the Department's work during the year under review was in large measure the result of the loyalty and efficiency of the individual members of the staff who continued, as in the past, to carry out their duties with commendable effectiveness.

Respectfully submitted,

G. D. W. CAMERON  
*Deputy Minister of National Health  
and Welfare (Health)*

GEORGE F. DAVIDSON  
*Deputy Minister of National Health  
and Welfare (Welfare)*

OTTAWA, April 1, 1954.



# HEALTH BRANCH

## Introduction

### Administration

General organization for Health Branch administration underwent few changes during the fiscal year under review. Its statutory responsibilities continue to be discharged and a close association with provincial, municipal and voluntary organizations in Canada has been maintained.

The reorganization in the administration of health services which took place at the close of the previous fiscal year has proven advantageous. For administrative purposes and according to their functions the various divisions under Health Services were divided into three broad groups, each under the direction of a Principal Medical Officer. This grouping is as follows: Environmental Health and Special Projects, Medical Advisory Services, and Research Development.

No changes were made in the administration of the three Directorates within the Health Branch; namely, Food and Drug, administering the Food and Drugs Act and Proprietary or Patent Medicines Act; Health Insurance Studies, applying grants provided under the National Health Program, as well as carrying on a continuing health insurance planning assessment; and Indian Health Services, providing preventive services and medical and hospital care for Indians and Eskimos.

### Health Trends and Developments

Apart from its statutory functions, the Health Branch of the Department must keep abreast of developments in every phase of the rapidly expanding field of preventive medicine and public health. New avenues and vistas have opened up and the responsibilities of the Department are ever-widening. Public health is concerned not only with the prevention of disease but with any health problem or disability which threatens or affects any considerable portion of the public.

The purpose of this section is to review briefly the highlights of some major and often controversial issues which are arousing public interest at the present time and with which this Department and the Canadian people are vitally concerned:

- (1) New food and drug legislation
- (2) Medical and hospital care insurance
- (3) Lung cancer
- (4) Poliomyelitis
- (5) Newborn Care
- (6) Environmental pollution

### New Food and Drug Legislation

It is expected that the new Food and Drugs Act, assented to May 14, 1953, will be proclaimed in July 1954. The regulations under the existing Act have been carefully reviewed in the light of the new Act and many changes will be made.

Although the new Act is extensively re-worded the authority given is not greatly different from the present law. However, there are a few points worth noting in respect to public health in which authority has been extended.

Greater emphasis is placed on the necessity for good sanitary conditions in the manufacture, packaging and storing of foods, drugs and cosmetics. The new Act makes it an offence to manufacture, package or store these items under conditions or circumstances as might contaminate them with dirt or filth or render them injurious to health, or to sell such products. It is fundamental that those who undertake to make their living by preparing food or by selling it to the public should know how to prepare and sell clean, safe food and be willing to spend the money and take the pains to put their knowledge into effect. The sanitation requirements of the new Act will not, and certainly were not intended to, affect the great majority of manufacturers who are very conscious of their obligation to supply products that are clean and suitable for human consumption. However, extensive surveys of certain food industries by the Food and Drugs Directorate have shown that sanitary conditions in a number of plants are far from ideal. Practical plans have been formulated to use the much stronger persuasion which can be exerted under the new Act to correct conditions in these plants.

One of the important public health measures of the existing Food and Drugs Act is the prohibition of the sale of foods or drugs advertised to the general public as a treatment for any of the serious diseases mentioned in Schedule A of the Act which include arteriosclerosis, cancer, diabetes, epilepsy, heart disease, etc. This section which has been most useful in preventing the sale of quack remedies to the detriment of public health has been clarified and strengthened by making it an offence to advertise as well as to sell. It is expected that this will allow quicker and more forceful action in preventing frauds dangerous to health.

Requirements for the sale of drugs on prescription only are essentially the same under the new Act. However, the enforcement of such requirements will be strengthened by the new Act which authorizes Food and Drug Inspectors to examine records which must be kept by those dispensing drugs on prescription.

The Food and Drugs Act, although it has provisions respecting the prevention of fraud in the sale of foods and drugs, is also a public health act and the changes referred to above will strengthen its effectiveness in this field.

### **Medical and Hospital Care Insurance in Canada**

There has been a marked post-war growth across Canada of both public and voluntary hospital and medical care plans. Approximately 35 per cent of the population are now insured in some measure against the costs of medical care, and over 60 per cent have at least partial hospital care protection.

There have been many different approaches to the difficult problem of financing adequate health care services. Traditionally the federal government has provided these from public funds to special groups such as members of the Armed Forces, veterans, sick mariners, Indians and Eskimos. Five provinces have contracted with their respective provincial medical associations to provide medical care to so-called "indigent" groups. Newfoundland has developed Cottage Hospital Districts, to offer hospital and nursing or medical care to residents of remote and isolated areas, and rural municipalities in the prairie provinces have frequently provided general practitioner medical care services through salaried municipal doctors. British Columbia and Saskatchewan have adopted province-wide compulsory public insurance programs to provide hospital care for all residents, and Alberta has subsidized its municipal hospital system,

which provides services for an estimated 90 per cent of the ratepayers of the province. In Saskatchewan, all 45,000 residents of the Swift Current Health Region receive medical and limited dental services through a compulsory regional insurance program.

At the same time there has been a major expansion, especially in urban centres, of voluntary enrolment under professionally-sponsored non-profit insurance plans, of both service and indemnity types, and also of commercial indemnity insurance.

Coverage under the major non-profit medical care plans has increased from 167,000 persons in 1946 to 2,353,000 persons, or 16 per cent of the population in 1953, and, under the non-profit hospital plans, from 1,635,000 to 3,500,000 persons, or 24 per cent of the population. The commercial insurance companies have written contracts which, in 1952, covered 2.3 million persons for surgical benefits, 1.2 million for medical benefits and 2.7 million for hospital coverage.

Considerable variation exists in the benefits available under public and private programs. Provincial hospital plans in the western provinces provide public ward accommodation, routine nursing services, operating and delivery room service, dressings and plaster casts, ordinary drugs and necessary laboratory, x-ray and other diagnostic services. Hospitalized persons pay a nominal daily charge in British Columbia and Alberta. A charge is also made for maternity cases in Newfoundland Cottage Hospitals; Alberta has a free maternity hospitalization program.

The major non-profit hospital plans have adopted two general approaches to the provision of benefits. Some offer comprehensive contracts under which members receive hospital room and board, routine nursing services, the use of operating and delivery rooms and necessary laboratory and diagnostic services; others reimburse either the patient or the hospital up to a certain fixed amount. Persons enrolled under the major non-profit medical care plans are entitled to any necessary surgical or obstetrical care, together with physicians' services. In general, physicians accept payment from service plans as full discharge of claims; specialists may and often do make an extra charge. Under the indemnification plans offered by the insurance companies, members are reimbursed up to fixed amounts, determined by size of premium, for expenses incurred; these plans generally exclude physicians' calls in homes or offices.

It is hoped that careful study of experience under these programs, carried out in relation to advances in medical science, investigations of the extent and effect of illness and progress made in the building up of preventive and rehabilitation services, will assist in solving the difficult problems involved in making health care services available to all who need them.

### **Lung Cancer**

The rapid increase in the incidence of lung cancer, especially among males, has led to much concern about, and research into, the etiology of this condition. The seriousness of the problem is indicated by the fact that the number of cases among males over fifty years of age in Canada has recently been increasing by half every five years. In England and Wales the crude death rates attributable to lung cancer have risen from eight per million in 1900 to 20 in 1925, to 278 in 1950 and to 321 per million in 1952. <sup>(1)</sup>

The different studies which have been made of the relationship between lung cancer and air pollution in recent years in the United Kingdom, United States and other countries have raised the question of whether, in highly

(1) *Bronchial Carcinoma*: Richard Dill, M.D.; M.R.C.P., Milroy Lectures, Royal College of Physicians of London, 1953.

industrialized areas, atmospheric pollution directly affects morbidity and mortality from respiratory diseases. In certain studies substances have been isolated from city air and automobile exhaust which have proved carcinogenic for the skin of mice. Since the earliest known cases of lung cancer from occupational causes were first reported among cobalt miners in Saxony in 1886 there has been increasing recognition of the necessity of control of dispersion of toxic substances into the atmosphere and today it is recognized as an important part of preventive health planning. It is hoped that the study of air pollution in the Detroit-Windsor area at present being carried out by the Department in conjunction with Ontario and U.S. public health personnel will assist in extending our knowledge of this problem.

While current research into the relationship between lung cancer and smoking, which is complicated by the long period of exposure existing prior to the onset of this disease, cannot as yet be regarded as conclusive, the parallel which exists between increased incidence of this disease and of the rise in the use of tobacco, and especially cigarettes, among males cannot be dismissed. Though the causative effects of certain environmental and occupational conditions as well as such factors as differences in urban and rural mortality indicate that smoking is not the sole cause of this disease the possibility of a positive relationship appears strong and current research is being kept under constant review by the Department.

### **Poliomyelitis**

The summer and fall of 1953 witnessed the highest incidence of poliomyelitis yet recorded in Canada. True to its irregular epidemic pattern, the disease struck with severity when and where least expected. Early in the summer it appeared in the Yukon in and around Whitehorse. A more severe epidemic than the previous year occurred in Winnipeg and southern Manitoba. In Edmonton a sharp outbreak, followed closely by an even more severe attack, extended late into the fall of the year.

Gamma globulin in limited quantities was distributed to those areas most severely hit. Conclusive results following its use have not been demonstrated in Canada or in the United States. In isolated instances, however, favourable observations have been recorded.

In the absence of a more effective agent and with the support of informed opinion, procedures for distribution, devised and carried out the previous year, will be continued with slight modification during the summer of 1954. The procurement of blood and its processing to produce gamma globulin will be financed in great part by funds under the National Health Program. More than double the amount of gamma globulin will be available for the summer months, the total production for the year approximating 100,000—5 cc. vials. Much of this supply will be allocated provincially on a per capita basis and Provincial Health Authorities will determine the particular circumstances promising optimum utilization of the material.

At this time gamma globulin is the only available agent which appears to offer some protection against paralytic poliomyelitis. But the hope for a more lasting means is brightening. Extensive field trials in the United States using the Salk vaccine were initiated in the spring of 1954 and by May over 500,000 school children had been inoculated, about one-half receiving the vaccine while the others were given a neutral substance and represent the control group. As the summer approached the first obstacle appeared to have been passed in that there were no immediate untoward effects following the use of the vaccine.



There yet remain, however, other vital questions which must be answered. Are there any delayed reactions or undesirable side effects? Does the vaccine actually protect human beings from the disease, and if so, how long does the protection last?

With the passage of the summer the Salk vaccine may provide the answers to some of these questions. If they are favourable, research laboratories in Canada will be in an ideal position to prepare the vaccine as a result of experience gained in growing the poliomyelitis virus for the Salk vaccine and other research advances in this field. In the meanwhile, early predictions and over optimism are likely to be misleading and should be avoided.

### Newborn Care

The progressive reduction in infant mortality in recent years has drawn attention to the area of foetal and neonatal mortality or perinatal mortality where reductions have been less remarkable. In 1952, Canada's infant mortality rate of 38/1000 live births was one-half of the 1936-40 rate, while the neonatal rate of 23 and the stillbirth rate of 18 represented reductions of only one-third of the corresponding 1936-40 rates. The fact that, in 1952, 40 per cent of neonatal deaths occurred on the first day and 75 per cent in the first week of life further emphasizes the importance of this perinatal period.

One major obstacle to the development of comprehensive programs for the saving of these infant lives has been a lack of knowledge of the precise cause of many foetal and neonatal deaths; for example, the cause of premature labor is often obscure. However, careful studies of foetal and neonatal deaths in recent years have thrown considerable light on the subject and two such studies are now being conducted in Canada. Among the deaths from known causes, it has been shown that the major cause of morbidity and mortality in mothers, namely—toxemia, hemorrhage and prolonged difficult labor—are frequently a serious risk to the infant as well. Improved care of mothers during pregnancy, and especially mothers who develop complications of pregnancy, can therefore be expected to influence favorably both maternal and infant death rates. Admittedly, some causes of neonatal deaths, such as deaths from congenital abnormalities, are not amenable to great reduction with our present knowledge, but it has been amply demonstrated that deaths from such causes as prematurity and infection can be reduced by the provision of better medical and nursing care in the neonatal period. Further reduction of the foetal and neonatal death rates is, therefore, at least as dependent on improved care of mothers during pregnancy as on improved care of infants in their early days of life.

Because of the increasing trend on this continent at least toward hospitalization of all mothers at delivery, the problem of newborn care is becoming more and more a hospital problem. There has been more extensive development of public health programs to improve newborn care than of programs to improve maternity care. Notable among such programs are those for premature infants as well as those directed to the improvement of the hospital facilities and care of all newborn infants. It is acknowledged, for example, that one of the risks to the infant born in hospital is infection, so methods of care are being modified to reduce this risk.

In recent years progressive health departments have contributed in several ways to the improvement of maternity and newborn care. They have defined, in collaboration with pediatricians and obstetricians, good standards of care for mothers and newborn infants, and have made these standards available to hospitals. In some instances these standards have been made mandatory



by being included in the Sanitary Code; in others, they have been merely recommendations. In addition, nursing and medical consultants have been provided to assist hospitals in implementing the standards.

Premature infants make up a high proportion of infants who fail to survive their first month of life. It has been demonstrated repeatedly that special attention devoted to the care of these babies in the form of improved physical facilities, more expert nursing care, and a closer working relationship between the hospital and community health services will result in a marked increase in the survival rate of premature infants. In large cities, centres for the care of these infants have been established which also serve as graduate training centres for medical and nursing personnel. Such training centres make very important contributions to the improvement of the general standard of newborn nursing care.

Attempts to reduce the risk of infection being acquired in the hospital nursery have resulted in changes in physical facilities and changes in techniques of care. The trend in hospital construction is toward smaller nurseries to reduce the exposures between infants and their exposures to attending personnel. The ideal unit is one which can be cared for by one nurse. This ideal set-up sometimes has to be modified due to problems associated with nursing shortages. Increasing emphasis is being placed on the provision of a suspect nursery to which infants can be removed at the earliest sign of infection. Techniques are being modified and simplified by taking daily care to the infant instead of taking the infant to the care. To facilitate this individual care, bassinets are now being designed to include a work area and storage space for supplies with each infant cot.

Perhaps the most serious infection of the newborn period in terms of mortality is epidemic diarrhoea of the newborn. While this is not a single bacteriological entity, considerable interest has been drawn in recent years to the association of type specific strains of *B. Coli* with epidemics of this disease. The hazard of improperly prepared infant formulas as a source of this disease is obvious. A more efficient and much safer method of formula preparation coming into use in hospitals is terminal sterilization. It is strongly recommended as the method of choice for formula preparation by many health departments, and has been made mandatory by a few.

The trend in the improvement of newborn care, and hence in the reduction of neonatal deaths, is therefore to bring about improvements in the hospital care of all newborn infants while focusing particular attention on special groups, such as premature infants. As research extends our present knowledge, new programs will be developed to make maternity safer for both mother and baby.

### **Environmental Pollution**

The growth of large cities, the trend towards increasing industrialization, and the greater prevalence of metallurgical and chemical plants in Canada are creating new problems of air and water pollution.

While Canada has not had a large number of serious atmospheric pollution episodes, nevertheless, reference can be made to a few well-known examples. One of the earliest (1925) was concerned with damage to farm and forest lands by sulphur dioxide originating in Trail, British Columbia. Control of a somewhat similar situation in the Sudbury, Ontario, area involves the recovery of many tons of sulphur dioxide from stack gas in nickel-copper smelting. More recently, a major problem has been under study by this Department. In 1949, reports of human illness and of poisoning of wildlife and domestic cattle by arsenic brought to light a serious air pollution problem in the Canadian

Northwest where two mines roasting arsenic-bearing ore bracketed a townsite with a population of 3,000 persons. The roaster fumes, containing a high percentage of arsenic trioxide, had been freely discharged to the atmosphere for about two years. In 1951, one mine installed a scrubber and later in the year the other mine installed an electrostatic precipitator which produced a marked reduction in arsenic deposited from the air. During 1953, a constant low level of arsenic in air, water, and vegetation appears to have been reached. Periodic clinical examination of the school children over the past three years has not revealed any change in the high standard of health. The survey will be continued in order to provide a continual check on safety.

Another investigation, which is being undertaken by the International Joint Commission, relates to the Detroit-Windsor area. From 1949, records have been kept of meteorological data, smoke emissions from vessels, SO<sub>2</sub> concentrations, gaseous and particulate contaminants and deposited matter (dustfall). This Department is making an important contribution to this investigation through financial assistance and direction of a special health study which has been undertaken in an effort to relate such degrees of air pollution as are ordinarily found in the urban areas to public health.

The above examples indicate that the problem of air pollution in Canada requires careful study and adequate action. Although the effect on health of various air contaminants in amounts ordinarily found in urban areas is not yet fully known, nevertheless there is sufficient evidence to warrant substantial control and abatement of air pollution. The need for control is further emphasized when it is appreciated that the rapid expansion of our industries and the growth of our communities can lead to the occurrence of acute incidents, which in other countries have caused illnesses and deaths.

In many ways, the problems associated with the control of water pollution are similar to those of air pollution in that they are due to an increasing population and a rapidly expanding industrial development.

This is well illustrated by conditions in the Great Lakes and connecting streams. The International Joint Commission carried out an extensive investigation of pollution in boundary waters in 1913. At that time municipal wastes were most significant. A further examination of parts of the Great Lakes system was made in 1946 to 1949 by the International Joint Commission. While municipal wastes had increased greatly in volume and pollution due to them was much more severe, industrial wastes were found to be of major importance. Heavy expenditures have already been made in achieving a partial correction of these conditions and much additional treatment of both municipal and industrial wastes will be required before satisfactory pollution abatement is accomplished.

The quality of water in many inland streams has suffered serious degradation for similar reasons. Many instances of this could be cited and some have received widespread publicity in recent months. Because others have not received the same attention, it should not be assumed that the problem is not widespread in Canada. Mention might be made of the Grand and Thames Rivers in Ontario. Both are comparatively small streams which are seriously contaminated by wastes, some of which receive considerable treatment before being discharged. These rivers usually have a heavy run-off in the spring since most of the watersheds have been denuded of forest growth to permit the development of agriculture and other interests. The flow during the balance of the year is quite limited in volume. By means of large storage reservoirs, abnormally low flow has been partially corrected but increased municipal and industrial growth has created problems of considerable magnitude in relation to conditions in these rivers and at water treatment plants taking raw water from them.

Conditions in the Ottawa River have been the cause of a good deal of unfavourable comment and in this case wastes originate in two provinces. Much publicity has also been given to the North Saskatchewan River, owing to taste and odour problems in water supplies located at points downstream from recent industrial developments. This river has its headwaters in the Province of Alberta and flows through the provinces of Saskatchewan and Manitoba before discharging into Hudson Bay. So severe was this pollution that water supplies hundreds of miles downstream were affected and many persons refused to drink the water. Investigation of this problem by this Department, in co-operation with provincial and other organizations, resulted in corrective action being taken with favourable results. Further remedial measures are required for the correction of other important but less urgent features of this particular pollution problem.

While the above references to water pollution represent some of the more critical conditions presently existing in Canada, it is important that they be considered only as evidence of a growing need for effective control to ensure maximum use of our waterways without abuse.

### **Dominion Council of Health**

The Dominion Council of Health, which consists of the Deputy Minister or Chief Health Officer of each of the provincial health departments and five appointees of the Governor-in-Council, serves as the principal advisory body to the Minister on matters pertaining to health. The regular semi-annual meetings provide a medium through which co-operation and co-ordination of effort between federal and provincial governments on all health activities are achieved.

During the fiscal year under review, the 63rd meeting of the Council was held. In addition to consideration of technical and administrative problems in connection with the National Health Grants Program, the Council devoted a full day to a review of current problems in the field of environmental pollution. Present with the Council for these discussions were a number of directors of public health engineering from the provinces, as well as other recognized authorities in the field of water and atmospheric pollution.

Considerable attention was also given to the problem of poliomyelitis, in view of the severe epidemic which occurred in the western provinces during the late summer and fall of 1953. Plans for increasing the production of gamma globulin in Canada for use in 1954 were discussed and a co-operative scheme for broader utilization of special equipment used in treatment of polio, such as iron lungs, was initiated.

### **International Health**

An active interest in the World Health Organization, one of the specialized agencies of the United Nations of which Canada is a member, has been maintained by the Department. The Sixth World Health Assembly, chief governing body of the Organization, was held in May 1953. The Canadian delegation (to this Assembly) was headed by Dr. G. D. W. Cameron, Deputy Minister of National Health. Other members of the delegation were: Dr. Donald Smith, member of Parliament for Shelburne; Dr. Oliver Leroux, Assistant Director of Health Insurance Studies of the Department; Dr. Morley Elliott, Deputy Minister of Health of the Province of Manitoba and Mr. Bruce Williams, Acting Permanent Delegate to the United Nations' European Office in Geneva.

The Canadian delegation played a very active part during this Assembly, a member being elected to the Chairmanship of one of the two main committees, that on Program and Budget, while other delegates served on a number of sub-committees and working parties.

In 1952, Canada was elected as one of eighteen countries entitled to designate a member of the Executive Board of W.H.O. This body is responsible for the implementation, through the Secretariat, of decisions and policies adopted by the Assembly. Its members, though designated by the Governments of elected countries, serve as independent experts. Dr. Oliver Leroux, who was originally appointed to serve on the Board, resigned in September 1953, in order to accept an appointment with the World Health Organization in India and was subsequently replaced by Dr. P. E. Moore, **Director of Indian Health Services** in the Department. Dr. Moore attended the 12th Session of the Board in January 1954.

During the year the Department continued to advise and assist the Economic and Technical Co-operation Service of the Department of Trade and Commerce in connection with technical assistance in the health field made available to participating countries in the Colombo Plan. This involved assistance in the placement of medical and nursing personnel for post-graduate training in Canada and the recruitment of Canadian personnel to serve as experts in Southeast Asian countries.

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## FOOD AND DRUG DIVISIONS

### General

The Food and Drugs Act and the Proprietary or Patent Medicine Act govern the safety, purity and quality, as well as the labelling and advertising of all foods, drugs, therapeutic devices and cosmetics. Both Acts are administered by the Food and Drug Divisions of the Department, with advice, in the case of enforcement activity and the drafting of legislation and regulations, from the Department's Legal Division.

A very considerable amount of time was directed in 1953 to the revision of the Food and Drug Regulations so that when the new Food and Drugs Act would be proclaimed, revised regulations would be ready for immediate distribution. Revision of the regulations was undertaken by an internal scope committee which supervised the work of specialized sub-committees. The draft regulations, so prepared, were then submitted to all staff members and interested government departments for comments and further consideration was given by the scope committee to any comments received. When these suggested changes had been incorporated or it was decided that they were impractical, undesirable, or beyond the authority provided in the Act, the draft regulations were presented to the trade for comments. At the date of writing all comments have been received from the trade on the draft regulations and work is proceeding with the Department of Justice to finalize the submissions and drafting a covering order-in-council. The highlights of this new legislation are summarized in the introduction of this Annual Report under "Health Trends and Developments".

In November 1953 the staff of the Central Food and Drugs Laboratories in Toronto moved to new accommodations. Their present quarters are located at 27 St. Clair Avenue East, and are a marked improvement compared to the former unsatisfactory premises on Victoria Street. It is a pleasure to report also that after years of anticipation the new quarters for the Food and Drug Divisions in Ottawa are being constructed and that the effort previously expended on going over blue-prints and making surveys of requirements will shortly be reflected in a suitable building from which operations can be directed with efficiency.

Effective working relationships with industry were maintained in the drafting of standards and regulations. Revised prescription drug regulations were introduced in June 1953 which appear to be practical and are supported by both the medical and pharmaceutical professions. These new regulations provided for the acceptance by pharmacists of oral prescriptions under certain circumstances as well as written prescriptions. Abuses of this trust in the pharmaceutical profession have not been reported and the present procedure is much more satisfactory for both pharmacists and physicians. A limited number of prosecutions were found to be necessary this year as in the past to emphasize the seriousness of the distribution to the general public of these potent drugs which are contained on the prescription lists. It is considered to be against the public interest to have potent drugs such as barbiturates, sulfas, antibiotics, etc. distributed to the general public without medical supervision.

Efforts were made during 1953 to gather statistics on the incidence of accidental poisonings in Canada. Figures on deaths due to accidental poisoning have been procured from the Bureau of Statistics, but there is at present no satisfactory system for procuring recent detailed information on poison deaths.



The figures received from the Bureau of Statistics are group classifications and are not available until the following year. An even greater scarcity of material is evident when one wishes to assess the amount of damage due to poisoning which did not result in death. Recent publicity given in the press to incidents involving headache tablets and boric acid in baby powder has again drawn attention to the need for facts and figures on this subject.

Sensitive methods for the detection of vegetable oils and animal fats in dairy products were developed during 1953 and application of these tests resulted in confirmation of the rumours which were heard from industry to the effect that these materials were being added to butter in amounts ranging from 10 to 12 per cent. Before the development of these specific tests this level of adulteration had been undetectable by chemical methods. A further explanation of the principles involved is contained under "Inspection Service Division".

Interest in the fluoride content of food and drinking water has increased in recent years since it has been reported that the presence of small amounts of fluoride in drinking water reduces the incidence of dental caries. In order to accurately determine the amount in the diet, a sensitive method for the estimation of fluoride is required. A satisfactory colorimetric procedure has been developed based on the bleaching of the purple colour of ferri salicylate by the fluoride ion. This method has been applied to drinking water, edible bone meal, baby foods, tea and other food products with satisfactory results.

Following recent nuclear explosions in the Pacific it was feared lest radioactive fish make their appearance on the Canadian market. The Japanese Government took immediate steps to assure that export shipments of frozen and canned tuna fish did not present a hazard to consumers with respect to excess radiation. In addition the Department of National Health and Welfare through their Regional Office of the Food and Drug Divisions at Vancouver in co-operation with the Inspection and Consumer Service of the Department of Fisheries have examined import shipments of tuna fish for excess radiation and plan to continue spot checks on future import shipments until the hazard of such contamination has passed. No excess radiation has been found to date.

Constant liaison with other enforcement agencies is necessary if duplication and gaps in enforcement are to be prevented. In this connection, assistance of a technical or enforcement nature was given to a number of other government department and agencies, including the Department of Agriculture, the Department of Fisheries, the Department of National Revenue, Crown Assets Disposal Corporation, and the Royal Canadian Mounted Police.

Canadian and International Standard preparations used in the assay of drugs were distributed to manufacturers and research institutions on request.

Since the Food and Drugs Act is international to the extent that it applies to imports, active collaboration must be maintained with other countries if the quality of imports is to be kept at satisfactory levels. The department takes an active interest in legislation and standards and methods of analysis of foods and drugs in effect in foreign countries and established by international or foreign authorities, including the World Health Organization, the United Nations Narcotic Commission, the British Pharmacopoeia Commission, the United States Pharmacopoeia Committee of Revision, the Association of Official Agricultural Chemists, the Committee on the National Formulary and the United States Food and Drug Administration.

The Division have several panels or boards of experts to advise on technical and medical problems. These include: the Advisory Panel on Foods, the Advisory Panel on Drugs, the Advisory Board on Proprietary or Patent Medicines, and the Drug Advisory Committee. Members of all boards or panels

are physicians, pharmacists or other scientists who are university professors, clinicians or technical people in industry. They are selected because of their knowledge and also because, in many instances, the advice of independent experts not in government service is of considerable advantage. Much of the work is carried on by correspondence, but the Drug Advisory Committee formerly known as the Canadian Committee on Pharmacopoeial Standards meets at least once a year, the last meeting having been held in Ottawa on November 23, 1953.

### **Inspection Services Division**

The inspection services consist of twenty-six inspectoral districts covering the ten provinces, having in each district one or more inspectors. A number of inspectoral districts is attached to each of the five regional offices. The 52 inspectors may be compared to shock troops. They are in contact with the public, retailers, wholesalers and manufacturers and must sense when things are wrong and must give the information and advice necessary to set the machinery in motion to correct the unsatisfactory conditions. The aim is to correct at the source and, to that end, the inspectors have authority to detain imports until evidence of compliance with the law is established. The inspectors, working under the direction of the regional directors inspect shipments of food and drugs at the port of entry and submit samples to the regional laboratory for analysis when there is cause for suspicion. Random samples of foods and drugs are also purchased on the domestic market and are submitted for analysis to the regional laboratories.

The usual administrative activities include: examination of import shipments and domestic foods and drugs for compliance with the relevant Acts; advice to manufacturers, importers and retailers on the requirements for compliances; scrutiny of radio and television commercials referring to foods, drugs and cosmetics for the Canadian Broadcasting Corporation under terms of the Broadcasting Act; examination of labels and advertising; assistance to other divisions and departments of government and prosecutions for violations of the Acts.

Administrative action may take one or more forms depending on the circumstances of each case, and may consist of warnings, seizures or prosecutions. During the year 1,281 warnings were issued, 28 seizures of stocks of foods or drugs were made and there were 154 prosecutions including voluntary payments under Section 26 of the Act. Seizures and prosecutions are the last resort and serious efforts are made to correct deficiencies at the manufacturing level by warnings and advice. A total of 18,492 radio and television commercials were reviewed and over 4,000 labels were examined in connection with label surveys as distinct from the examination of labels examined on laboratory samples.

The regulations under the Food and Drugs Act requiring the submission of data by manufacturers regarding the safety of new drugs have been enforced throughout the year. Drug manufacturers must wait until their submission has been found to comply with the pertinent regulations before marketing new drugs. Submissions regarding 165 new drugs were reviewed during the current fiscal year. This number is almost equal to the total number reviewed in the previous 18 months of control indicating the increased activity in this field. The Assistant Director of Scientific Services with the assistance and advice of the Pharmacology and Toxicology Section, the Physiology and Hormones Section of the Ottawa laboratories, and the Biologics Control Section of the

Laboratory of Hygiene, was largely concerned with the technical review of these submissions. A medical officer was added to the staff in December 1953 whose advice on new drug submissions has been very valuable.

The regulations require that antibiotics and certain biological preparations for human parenteral use, offered for sale in Canada, must be manufactured under suitable conditions and meet rigid specifications. In order to be assured that suitable conditions are maintained in establishments in which these products are manufactured, a Canadian licence is issued only after inspection of the premises and there is assurance that the manufacturing processes are under competent direction. The manufacturing premises of each of the 47 Canadian licence holders are inspected periodically thereafter. Much effort is devoted to the sampling and inspection of such products as serums, vaccines, liver extract injectable, and insulin. The work connected with the control of antibiotics has increased markedly because of the increased activity in this field in industry.

The investigation of the sanitation of Canadian flour mills which was initiated three years ago was continued. In the course of this work 88 mills were completely inspected for sanitation and general condition. Many specimens for microbiological examination were obtained at each mill. A continuing trend of improvement over former conditions was noted in most establishments. The regulations requiring holding of cheese not manufactured from pasteurized milk were enforced during the fiscal year.

In the fall of 1952 and spring of 1953 persistent rumours were heard from the trade that vegetable oils and animal fat were being added to butter in the amount of 10 to 12 per cent, which amount was not detectable by the then existing chemical methods. Inspectors watched suspected creameries and only two prosecutions were carried out for small amounts of margarine labelled as butter found on premises. The laboratory staff in the meantime were working on a method to detect small amounts of vegetable oils and animal fat in butter based on the tocopherol content in the case of vegetable oils and the butylated hydroxy anisole (B.H.A.) content in the case of animal fat. Calculations showed that even 10 per cent adulteration of butter with vegetable oil would raise the tocopherol value from 35 or 40 to over 100. Similarly if B.H.A. is found in butter there is a strong presumption that lard has been added to the butter. Thirteen prosecutions were initiated, eleven of which have been completed with the manufacturers pleading guilty in each case. The total amount of adulterated butter involved in these actions is in excess of 120,000 lbs. This amount does not include 10,000 lbs. of adulterated butter which had been sold to third parties who were unaware of the adulteration and purchased the adulterated butter in good faith believing it to be genuine butter. This additional adulterated butter is also under seizure.

Samples of enriched bread and flour procured in the Ottawa area have been analyzed for vitamins and iron and have been found to conform closely to label claims. This survey is being continued in other sections of Canada.

Projects are being planned to initiate factory inspection under the provisions of the Food and Drugs Act 1953 and staff training courses have been prepared to train inspectors in this new phase of inspection work.

Some indication of the amount of enforcement activity may be obtained by examining tables 1, 2 and 3, pages 35, 36 and 37. When it is considered that the specimens mentioned include representative numbers of all types of foods, drugs and cosmetics, it becomes apparent that food and drug inspectors must be well-informed on many subjects. The diversity of problems encountered by inspectors is increasing steadily with new development in industry, technology and commerce.



It is becoming increasingly difficult to recruit and retain personnel who are qualified to carry out inspection work. Shortages of inspection staff caused mainly by insufficient remuneration for qualified personnel continue to hinder efficient enforcement. The position of Chief of Inspection Services was vacant for the complete fiscal year and the rapid turn over of staff makes continuity of purpose very difficult. During the year each of the five regional directors served approximately two months as acting Chief of Inspection Services. While this has relieved the burden of work and has familiarized the Regional Directors with the procedures at Ottawa it has not helped the continuity of purpose in enforcement.

Some of the more important facts displayed in Tables 2 and 3 on pages 36 and 37, are:

- (1) The total number of food samples examined (imports and domestic) increased by almost 4,000 in the fiscal year representing an increase of 21 per cent over previous fiscal year.
- (2) More than one half of the import shipments of food examined during the fiscal year were nuts and dried fruits.
- (3) Almost one half of the domestic food samples examined during the fiscal year were dairy products.

It should be explained here that while roughly 20 per cent of the domestic food samples examined were found to be adulterated, this does not indicate that 20 per cent of the food on the Canadian market is adulterated. In the first place, inspectors concentrate on taking the samples where there is suspicion of adulteration and when adulteration is detected additional samples are taken to verify results before action is taken. Actually it is estimated that a small fraction of 1 per cent of the food on the Canadian market is adulterated.

### **Administrative Services Division**

The administrative services are responsible for the administrative functions of accounts, purchasing, stores and estimates. They are also responsible for the maintenance of index records, the labelling library, the information centre, the handling of matters relating to accommodation and the maintenance of a stenographic and clerical pool. The clerical work pertaining to prosecutions, the issuance of Canadian licences, and keeping the trade informed regarding changes, deletions and additions to the regulations are also the responsibility of these services.

The revision of the Food and Drugs Act and the Food and Drug Regulations has made it necessary for some 75,000 individuals and establishments to be circularized with respect to the distribution of an anticipated Office Consolidation. More than 20,000 copies of 19 Administrative Releases were distributed to trade organizations and to individuals, soliciting their comments with respect to regulations intended to govern in some way the product or service they were offering to the public.

The information centre has prepared and distributed 27 Trade Information Letters and 25 Staff Information Letters, and issued weekly reports on detained imports of foods, drugs and cosmetics.

### **Proprietary or Patent Medicine Division**

The Proprietary or Patent Medicine Act, administered by the Proprietary or Patent Medicine Division, governs the manufacture and sale of secret formula prepared medicines offered to the Canadian public under proprietary or trade names. Registration of any drug in this class is compulsory, and a licence must be obtained before the product is placed on the market. The

manufacturer submits his qualitative and quantitative formula, stating his therapeutic claims and directions for use. This information is assessed and passed on by Medical Officers in the Department, and if the article otherwise meets the specifications of the Act registration may be effected. The sale of all registered preparations is licensed on a year to year basis so that if experience in use or advances in medical knowledge make it apparent that it is not in the public interest to permit further sale, a licence is refused. Under this system of dual control by registration and licence, which has been in operation since 1919, worthless as well as harmful products are screened out; promises of cures and false, exaggerated or misleading claims are prohibited. The dosage of potent drugs must be within strictly defined limits; alcoholic preparations must be sufficiently medicated so as to preclude their use as intoxicants. Narcotics, barbiturates, sulphas and prescription drugs are not permitted to be present in patent medicines. Treatments for serious diseases are not accepted for registration.

An Advisory Board of eminent physicians and pharmacologists, appointed by the Minister under Section 9 of the Act, prescribes what shall be deemed sufficient medication of medicines containing alcohol in excess of  $2\frac{1}{2}$  per cent to make them unfit for use as alcoholic beverages; also what shall be the maximum single and daily doses of any drug mentioned in or added to the schedule of the Act. The Board also advises as to the safety of other drugs, and investigates the suitability of unusual combinations.

During the year the registration of 3,039 preparations was reviewed. Two hundred and thirty-four new medicines were examined for registration; one hundred and ninety-one were approved and forty-three rejected. Approximately 5,000 labels, wrappers and newspaper advertisements were examined and criticized. In addition, approximately 8,000 radio commercials were reviewed in cooperation with the Canadian Broadcasting Corporation which requires that all radio announcements dealing with proprietary medicines be submitted and approved before broadcasting. Claims in these continuities which are considered to be false, misleading or exaggerated are marked for deletion or revision. Samples were secured on the open market, and examined as to quality and quantity of drugs and labelling. In this connection the Inspection Service throughout Canada contributed by procuring samples and reporting irregularities in recommendations and methods of merchandising.

Throughout the year manufacturers were interviewed to discuss problems arising out of present requirements, and through these meetings co-operation of the trade has been maintained, resulting in improved standards of proprietary medicines. Assistance was also extended to the Federal, Provincial and other officials concerned with the administration of laws and regulations otherwise relating to the sale of such products.

### **Laboratory Services Division**

Laboratory services consist of six laboratories. The central laboratory in Ottawa is employed chiefly in investigational and research work for the development of standards and methods of assay or the analysis of foods and drugs, in metabolism of foods and the mode of action of drugs. It also carries out all assays requiring animal experiments and conducts special surveys of products. The central laboratory is divided into ten sections and a summary of the investigational work conducted in each section during the year is contained here. There are laboratories attached to the five regional offices, each of which is equipped to analyse the majority of samples of foods and drugs collected by inspectors attached to the regional office. In addition, laboratory facilities have been established at Saint John, N.B., St. John's,



Newfoundland, and Sydney, N.S., in connection with the Halifax laboratory, for the purpose of expediting the handling of imports. The regional laboratories collaborate with the central laboratory in the study of methods and standards

The clinical effectiveness of tablets and capsules depends on at least two factors. The active principle must be present in the expected or labelled amount and it must be available to the patient when the product is swallowed whole. Last year the importance of adequate analytical control facilities was emphasized, particularly in ensuring that vitamin products met label claim. During the last two years physiological availability and disintegration time of tablets have been investigated intensively in a collaborative project by the Pharmaceutical Chemistry Section and the Vitamin and Nutrition Sections.

The human bioassay technique, involving the determination of the urinary excretion after a test dose of 5 mg. of riboflavin has been used as the criterion of availability. Ten members of the Food Drug Laboratories acted as experimental subjects. They consumed the required doses of 30 different tablets containing riboflavin and collected urine for the following 8 and 24 hour periods. Although it was found that the 8 hour test was specific and critical, it was rather cumbersome and not suited to production control techniques. The Pharmaceutical Chemistry Section therefore developed a simple *in vitro* disintegration test which yielded results in a much shorter time. It was found that tablets which did not disintegrate in 1 hour by this test were not physiologically available and could therefore be of little or no use to the purchaser. The standardization of the disintegration test in terms of availability represents a new approach to this problem and places the disintegration test on a sound quantitative physiological basis for the first time. The manufacturers of tablets whose ingredients were found to be unavailable physiologically were notified and have already modified their manufacturing process so that the contents of tablets are now available. The situation with regard to capsules is being investigated and evidence to date indicates that the problem is not as serious in this case.

The following are examples of the studies conducted in the various sections of laboratory services in the central laboratory at Ottawa. Much of the fundamental research forming part of these studies has been reported in scientific literature.

#### **Food Chemistry Section**

A sensitive colorimetric method, developed in this section, for the determination of tocopherol has proven very valuable in detecting the adulteration of butter with certain vegetable oils. The success of the method is based on the fact that most vegetable oils contain much more tocopherol than butterfat. Thus the presence of a small amount of vegetable oil in adulterated butter results in a marked increase in the tocopherol value. A total of approximately 300 genuine samples of butter have been examined in order to obtain a basic value for the genuine product. The method has also been adapted to the determination of tocopherol in ice cream and cheese.

The phosphatase method for detecting the use of raw milk in cheese has been thoroughly studied. A sensitive and accurate procedure is necessary since all cheese which has not been made from pasteurized milk must be stored for 60 days before being offered for sale. It was found, however, that the colour produced depended upon the age and type of the cheese. After further investigation a method was developed which is independent of these factors and it is possible with the revised procedure to accurately determine the percentage of raw milk used in the manufacture of all types of cheese.

A number of synthetic emulsifying agents have been recommended to improve the texture and keeping quality of certain food products. A study of methods for the determination of these compounds was initiated and a quantitative method has been developed for the determination of polyoxyethylene monostearate in bakery products. A qualitative procedure for the detection of another emulsifying agent, sorbitan monostearate in ice cream, has been adopted. The method is based on paper chromatography and a characteristic spot appears on the paper when this particular material is present.

Spectrophotographic methods have been developed for the examination of plant ash. By these procedures it is possible to accurately determine a number of elements at levels of 0.003 per cent.

The fill of container of a large number of food products has been investigated in order to prevent deception of the consumer by packages which are incompletely filled. A standard method has been worked out which can be applied to a variety of products such as rice, cake mixes and breakfast cereals. A study has been conducted of the fruit content of jams, based on the insoluble solids. This factor has been found to give an accurate indication of the amount of fruit which was used in the preparation of the product.

### Microbiology Section

A dependable method of obtaining relatively pure *Staphylococcus enterotoxin* has been developed. The emetic reaction caused by heated preparations from *Staphylococci* has been shown to be exclusively the property of a specific toxin which is distinct from the alpha, beta, delta, or lethal toxins. Some three hundred tests with cats have shown that the non-immunized cat properly treated appears to be a dependable test animal for enterotoxin. The isolation of enterotoxin in small amounts by paper ionophoresis has received a set-back due to selective partial adsorption of the toxin on the paper. Modifications are under study.

The degree of sanitation attainment of representative segments of the cheese manufacturing industry and of the poultry processing and the flour milling industries have been determined by inspection with the aid of bacteriological methods. With regard to the sanitation of cheese production, corrective measures have been instituted to bring about improvement. Special emphasis will be directed to those establishments making cheese from pasteurized milk. Many aspects of sanitation in the poultry processing industry are inadequate particularly in the smaller establishments.

During the past three years of surveillance of the flour milling industry a progressive trend in reduction of sub-standard mills has been noted. The microbial content of flour, including specific groups that are able to cause spoilage in other foods in which flour is an ingredient, has been shown to be numerically correlated with the degree of insect infestation of the mill. This confirms an earlier report.

Methods have been developed which allow an inspector to obtain objective data on the distribution of specific groups of bacteria on foods or upon surfaces of equipment that will contact foods in food factories. An assessment of the adequacy of cleansing and disinfection, of fecal contamination, of oral contamination and of the presence of strains of staphylococci able to cause food-poisoning is readily obtainable by the use of selective media, whose significance is confirmed, for the rapid detection of comparative numbers of "total" bacteria, coliforms, fecal streptococci, *Streptococcus salivarius*, and phosphatase-positive (enterotoxigenic) staphylococci.

### Vitamin and Nutrition Section

The comprehensive survey of vitamin manufacturers initiated 2 years ago has been practically completed. The products of many manufacturers have been reviewed more than once. The importance of adequate control facilities has again been demonstrated. This has been shown to be particularly important in complex multi-vitamin preparations where the stability of certain vitamins may be reduced. It may be concluded that the great majority of vitamin products on the market now conform closely to label claim.

Two published microbiological methods employing *Escherichia coli* 113-3 for the assay of vitamin B<sub>12</sub>, in pharmaceuticals have been investigated in detail. When the vitamin B<sub>12</sub> was predominantly in the hydroxycobalamin form the "pad plate" assay using this organism yielded results which were up to 50 per cent higher than by the *Lactobacillus Leichmanii* assay method (U.S.P. procedure). If the sample was treated with potassium cyanide before the assay by the pad plate method the results of the two procedures were comparable. The turbidimetric tube assay employing *Escherichia coli* was also compared with the U.S.P. procedure. Results tended to be lower with the *Escherichia coli* method when thiamin was present in multi-vitamin preparations. When thiamin was included in the basal medium results were comparable. Other vitamins or mixtures of vitamins did not have this effect.

Factors affecting the bioassay of vitamin A by the vaginal smear technique have been studied. It has been found that aureomycin and certain other antibiotics have an apparent "sparing" effect on the utilization of vitamin A by the ovariectomized rat. A study is being made of the mode of action of antibiotics in Vitamin A metabolism when they are added to the diet of rats at relatively low levels.

Both normal and anemic rats have been used to study the effect, on hemoglobin values and liver iron content, of three diets made up largely of bread baked from patent flour, enriched flour (containing no added bone meal), and enriched flour plus bone meal. The presence of bone meal in enriched bread had no effect on the hemoglobin levels of normal rats. When enriched bread containing bone meal was fed to anemic rats there was the suggestion that, under certain conditions, the presence of bone meal retarded hemoglobin regeneration. However, enriched bread with or without bone meal was found to be superior to unenriched bread, when using either normal or anemic rats, as reflected in hemoglobin levels. Various sources and amounts of calcium and phosphorus are being added to flour and their effect on the level of hemoglobin in rats is being studied. The livers of rats are being analyzed to determine the effect on this tissue.

Methods for the estimation of Folic Acid, Pantothenic Acid and Ascorbic Acid have been investigated during the year with a view toward simplifying and improving existing procedures.

Biological studies with rats on the nutritive value of various fats and oils have been continued in collaboration with workers at the National Research Council.

### Alcohol, Cosmetics and Colour Section

Determination of certain minor constituents in representative samples of French wines has been carried out. These are believed to be associated with flavour. When opportunity permits it is intended to follow this up by a similar study of Canadian and other wines. Differences in secondary constituents of French and Canadian apple brandies have been studied.



As in the past a small number of cases of sensitivity were reported, requiring investigation of the cosmetic concerned. The popular brands of baby powder were reviewed in connection with the presence of boric acid.

Work in food colours occupied the major proportion of the time of the section. The section has assisted the Animal Pathology Section in studies of the fate of oil-soluble colours in the rat metabolism, and has collaborated with the United States Food and Drug Administration in evaluating new methods of analysis of colour impurities. The electrometric estimation of dyes has been studied and comparison made with the standard titration method. A new method of separation of colour mixtures using column chromatography has been devised.

#### Pharmacology and Toxicology Section

The chronic toxicity rat feeding trial of four additives which have been proposed for use or are used in bread was completed. In confirmation of the preliminary results reported in the Annual Report for 1953, the final tabulation of the data revealed no significant deleterious effect of the additives tested.

The chronic toxicity rat trials on several food colours were continued during the year. Recently these studies were terminated having been carried out for 65 weeks. The accumulated data is being tabulated and studied.

The experimental evaluation of polyvinylpyrrolidone as a retardant carrier for drugs has been extended. The effect of this material on the analgesic action of morphine, demerol, and methadon in rats, on the duration of the narcotic action of phenobarbital, hexobarbital, and pentothal in rats and mice, and on the retention of para-aminosalicylate in the blood stream of rats and rabbits was investigated. The results of these studies have been published and further investigations are under way on polyvinylpyrrolidone and on a pectin derivative recommended for similar use as a retardant carrier.

Epinephrine solutions are used clinically for their vasopressor as well as bronchodilator effects. Since these two biological activities are not always proportional, the necessity of standardizing these solutions for both of these activities is evident. A satisfactory bioassay method for assessing the bronchodilator activity (using the tracheal chain of guinea pigs) has been worked out. It will be used in conjunction with the already available method for determining the vasopressor activity. A survey of the commercial epinephrine solutions for both these activities is being conducted.

A method for the assay of *Rauwolfia* alkaloids is under investigation.

Chlorophyllin has been claimed to have deodorant actions on a wide variety of substances. Among the various odors that have been suggested to be susceptible to chlorophyllin, that in the breath following the use of alcoholic beverages appeared to have special significance. An investigation into this problem has been carried out and the experimental results show that chlorophyllin does not markedly reduce the alcohol concentration or alter the chemical nature of alcohol in the expired air in dogs as determined by a chemical test. The results of further experiments show that chlorophyllin has no deodorant action on whiskey, either in human subjects or *in vitro*. It has also been found that chlorophyllin does not deodorize thioglycollic acid or putrified blood.

An adult fly technique for the detection of insecticide residues on certain crops was investigated. It was found to be a rather laborious method and of limited usefulness in detecting insecticide residues on crops.

Continuing last year's work additional attention has been given to analytical methods for the determination of molecular weights of plasma expanders.

The composition of market samples of meat tenderizers was determined with particular attention to the papain content.

An attempt has been made to devise more suitable methods for the evaluation of spasmogens and spasmolytics as well as ganglionic stimulating and blocking agents.

Animal tests for detecting agranulocytosis—producing drugs are being explored.

### Physiology and Hormones Section

The results have been published on the effects of the chronic administration of diethylstilbestrol upon body weight, accessory sex organ weight, and the reproductive capacity of the male albino rat. A study of the influence of diethylstilbestrol in hypophysectomized adult rats has been completed and reported in the literature. Methods are under investigation which may be useful for detecting the presence of estrogenic substances like diethylstilbestrol in chemically caponized fowl.

The involution of the thymus gland of intact weanling rats following the subcutaneous administration of either corticotrophin (ACTH) or adrenal cortical steroids, has been shown to be a specific method of assay for these hormone preparations. Small amounts of thyrotrophin, gonadotrophin and somatotrophin, when added to the injection medium did not interfere significantly with the assay of corticotrophin by this procedure. A method suitable for determining the potency of pharmaceutical preparations containing 11-oxycorticosteroids was described in a paper read before the Endocrine Society. The hormone-like substances, testosterone propionate, estrone, diethylstilbestrol and pregnenolone acetate, known to cause thymus atrophy when given chronically in relatively large doses, provided in much flatter long-dose response line than the 11-oxycorticosteroids. Substances like formalin and epinephrine when added to the adrenal corticoid preparation produced a significantly steeper dose-response curve. The presence of small amounts of preservatives such as phenol and benzyl alcohol did not have a significant effect on the biological assay of adrenal cortical hormones. A report has been accepted for publication dealing with the factors affecting the bioassay of 11-oxycorticosteroids using as the criterion of the response, the disposition of carbohydrate in the livers of immature adrenalectomized male rats. A study was made of the procedure involving the depleting of adrenal ascorbic acid of adult hypophysectomized rats following the subcutaneous injection of long-acting corticotrophin preparations.

Investigation of a bioassay method for thyrotrophin has been initiated in which the uptake of radioactive iodine by the thyroid of rats maintained on a diet containing iodinated casein, is employed as the criterion of the response.

The precision of the mouse convulsion method for the assay of insulin preparations has been improved by keeping the mice under the same environmental condition of temperature and humidity before, during and after the assay. The addition of gelatin, carboxymethylcellulose or polyvinylpyrrolidone to the insulin diluent did not change the slope of the dose-effect curve significantly.

Chemical procedures for the assay and identification of hormone substances in pharmaceutical preparations are receiving further study. Paper electrophoresis has been employed to separate and identify testosterone, progesterone and oestradiol. Paper chromatographic methods are being investigated for the detection and identification of steroid hormones, diethylstilbestrol and other synthetic estrogens.



Toxicity tests in mice on Lyophilized scallop "Liver" extract have shown that the toxin is relatively stable, when kept dry and cold, for at least two years.

### Pharmaceutical Chemistry Section

With the increasing importance of assaying weak bases and weak acids, in nonaqueous media this section devoted considerable time to investigating various applications of these methods to the analysis of drug products. A quick and accurate procedure was devised for the titration of ephedrine in oily and aqueous nose drops. A survey of market samples, which was conducted simultaneously revealed that many oily nose drops were low in ephedrine content. Consequently, a project has been initiated to determine the stability of this type of product under various storage conditions. This will be correlated with an investigation of manufacturing procedures.

A method using nonaqueous media was developed which permitted direct titration of acetylsalicylic acid alone or when combined with phenacetin or caffeine by dissolving the drug in chloroform and titrating with N/10 sodium hydroxide in methanol using bromothymol blue as indicator. Investigation is continuing on an assay method for phenacetin and caffeine in A.P.C. tablets, using nonaqueous media. This project has been expanded to those tablets which contain codeine in addition to acetylsalicylic acid, phenacetin and caffeine, in a joint effort with the Organic Chemistry section.

A study has been undertaken on ox-bile, cholic and desoxycholic acid to learn whether nonaqueous procedures can be developed which would be applicable to commercial preparations.

Work on tablet disintegration is being continued with efforts centred on existing market conditions. Collaborative tests were conducted on a proposed British Pharmacopoeia disintegration procedure. Close liaison on this problem has also been maintained with the United States Pharmacopoeia. A paper "The Relation between in vitro Disintegration time of Sugar Coated Tablets and the Physiological Availability of Riboflavin", a joint project of the Pharmaceutical Chemistry and Vitamin Sections was accepted for publication in the Journal American Pharmaceutical Association. In view of the relative importance of hard and soft gelatin capsules as a means of supplying medication, an investigation of disintegration times of a wide variety of market samples was carried out, using the U.S.P. XIV apparatus. The relative merits of simulated gastric and intestinal juices when compared with water as a disintegrating media was studied at the same time.

A statistical evaluation of weight variation tests on tablets was completed and the data compiled.

### Organic Chemistry Section

Further collaboration with the Royal Canadian Mounted Police Crime Detection Laboratories on research into methods for the isolation, purification, and identification of toxicologically important drugs including narcotics and barbiturates was undertaken. Reports of this work were given at the first two Canadian Crime Detection Seminars held at the Western Regional Crime Detection Laboratory, Regina, in May 1953 and March 1954. These seminars were attended by scientists from U.S.A. and Canada. The major outcome of these seminars was a realization of the urgent need to find new methods of isolating and identifying new drugs. There is an apparent lack of co-ordination of research in this field. The members of this section have been active in organizing a Forensic Society of Canada to help correct this situation.

Work was initiated to determine methods of identification of straight-chain ureides. Methods of analysis of tablets containing acetylsalicylic acid, phenacetin, caffeine and codeine were studied and applied to pharmaceutical preparations exempted from the Opium and Narcotic Drug Act.

Fundamental research on the nature of addition complexes of nitrogen containing heterocyclic compounds with reagents prepared from the central metals of the periodic table of elements was carried out. Details of this work have been published.

Standard Reference Drugs for use in comparison tests for court purposes were collected, purified and chemically and physically characterized by means of the Infra-red, Ultra-violet X-Ray Diffraction methods. Samples of fourteen of the most common narcotics encountered in the illicit traffic were then distributed to the Regional Food and Drug Laboratories and to the Crime Detection Laboratories in other provinces. Identification by comparison with authentic samples will place the analyst on firmer footing in preparing court evidence than has been possible in the past without such reference standards.

In collaboration with the Food Chemistry Section a project to determine the country of origin of opiums by spectral analysis of the overall composition of the ash of opium was initiated. A project to determine the applicability of the current chemical and physical methods was started. Samples were obtained from the United Nations Secretariat whose origins were "known" to them but not to us. The "unknowns" were analyzed by chemical and physical methods. This work is a continuation of the international research on opium initiated in 1949 by the Economic and Social Council of United Nations.

#### **Biometrics Section**

The work of this section has broadened considerably and in addition to preparing the necessary designs of experiment and relevant computations for the other sections of the Divisions, joint projects have been undertaken with other Departments. Procedures for adequate sampling and the collection of useful data have been devised for several types of products including bulk commodities. The extensive study of the problem of weight variation in compressed tablets has been continued.

#### **Animal Pathology Section**

Histopathological data on over 7,000 tissues sectioned and examined during the year was supplied to other sections of the division. There is a backlog of over 10,000 tissues requiring sectioning. The majority of these are tissues from animals on bread additive test and food colour tests.

Post mortem examinations were performed on 587 animals. The majority of these animals were on specific test and diagnosis as to cause of death was required. Haematological examinations were performed on approximately 900 animals, mainly connected with food colour projects.

The neurohistopathology of a case of cerebellar aplasia is being studied. Experimental work on staphylococci enterotoxin is being carried out in collaboration with the Microbiology Section.

Infectious disease encountered in the animal colony, namely canine distemper, feline panleucopenia, mange and coccidiosis, were controlled with minimal losses. An attempt is being made to eradicate otitis media and otitis interna from the animal colony. Antibiotics and bacterins are being employed, and breeding techniques are being altered in an attempt to control these infections. Over 17,000 rats and 4,000 mice were raised during the year and utilized by the Pharmacology and Toxicology Section and the Physiology and Hormones Section in experimental work. Thirty-five tons of feed were used during the year to feed the animal colony.

TABLE 1  
(Food and Drug Divisions)  
DRUGS EXAMINED

FROM: APRIL 1, 1953 TO MARCH 31, 1954

LABORATORY	DOMESTIC					IMPORTS			
	Samples	Adulterated	Misbranded	Other Infractions	Shipments	Adulterated	Misbranded	Other Infractions	
Halifax.....	300	25	116	32	649	1	456	95	
Montreal.....	871	135	183	.....	2,590	.....	382	.....	
Ottawa.....	509	78	135	8	48	.....	1	.....	
Toronto.....	587	59	219	19	1,262	1	403	207	
Winnipeg.....	416	93	188	9	1,176	6	894	265	
Vancouver.....	994	61	41	297	684	.....	183	297	
Totals.....	3,677	451	882	365	6,409	8	2,319	864	

TABLE 2

(Food and Drug Divisions)

## EXAMINATION OF DOMESTIC FOODS

FROM: APRIL 1, 1953 TO MARCH 31, 1954

	LABORATORIES						Adult- erated	Mis- branded	Other In- frac- tions	Totals
	Hali- fax	Mont- real	Ottawa	Toron- to	Winni- peg	Van- couver				
Alimentary Pastes.....				3				3		3
Baking Powder, Leavening Agents or Chemicals.....	13			8	3	29	6	5	2	53
Bakery Products—Cakes, Pastry. Beverage and Beverage Concen- trates.....	42	141	15	15	13	21	2	67	3	247
Bread, Flour and Cereals.....	236	265	17	654	99	48	81	271	9	1,319
Breakfast Foods.....	74	345	308	7	77	64	16	340	4	875
Confectionery.....	2		1	4	2		1	2		9
Dairy Products.....	11		25	35	18	5	4	36	3	94
Dessert Powders and Mixes.....	318	3,093	536	753	182	141	1,532	14	7	5,023
Eggs and Egg Products.....	21		9	12	1	2		17		45
Fish and Fish Products.....	149	6	7	12	9	81	20	24	4	264
Food Colours and Flavours.....	82			6	2		21	38		90
Foods, Oriental.....										
Fruits, Fresh.....	3		4		2	1	2	4	1	10
Fruits, Canned.....	7		2	10	34	27	8	9	3	80
Fruits, Dried.....	29		4	1	3	7	3	2		44
Fruits, Glazed or Candied.....			3	1	8	19	2	4		31
Gelatin.....	5						2	5		5
Honey and Honey Products.....	9	1	4	6	4		1	8		24
Jams and Jellies.....	6		16	147	12	19	58	19		200
Juice and Syrups.....	98	26	40	4	207	35	36	23	1	410
Lard and Shortening.....	15	53	24	2	3	17	8	7		114
Liquors, Distilled and Fermented	51		16	3	15	5		2	4	90
Meat and Meat Products.....	168	579	117	196	328	267	209	34		1,655
Nuts.....	2		5	6	4	1	6	5		18
Oils.....			4	8						12
Pickles.....	1		18	4	10	1	5	6		34
Preservatives.....	8							4		8
Salad Dressings, Sandwich Spreads and Other Condiments.	18	1	63	27	8	52	53	18		169
Soup and Soup Mixes.....	2		59	4	3	7	36	4		75
Spices.....	90		4	3	170	32	63	51	1	299
Sugar and Substitutes.....	14		1	2	3		7	2		20
Sweeteners, Artificial.....										
Syrups and Molasses.....	6			6	2	65	32	9		79
Vegetables, Canned.....	8		12	5	10	85	19	14	1	120
Vegetables, Dried.....			5	10		3	3			18
Vegetables, Fresh.....			2					1		2
Vinegar.....	10				33	22	18	7		65
Water.....										
Miscellaneous.....	10		20	8	36		4	25	2	74
Grand Totals.....	1,508	4,510	1,341	1,962	1,301	1,056	*2,258	*1,080	*45	11,678

\* These totals are not included in the right hand column.

TABLE 3

(Food and Drug Divisions)

## EXAMINATION OF IMPORTED FOODS

FROM: APRIL 1, 1953 TO MARCH 31, 1954

	LABORATORIES						Adult- erated	Mis- branded	Other In- frac- tions	Totals
	Hal- fax	Mont- real	Ottawa	Toron- to	Winni- peg	Van- couver				
Alimentary Pastes.....					1					1
Baking Powder, Leavening Agents or Chemicals.....	6			1	1			3		8
Bakery Products—Cakes, Pastry, Beverage and Beverage Concen- trates.....	13	26		7	17			37		63
Bread, Flour and Cereals.....	44	10		8	15	60	4	41		137
Breakfast Foods.....	10	6	46	9	9	11	1	24		91
Confectionery.....		1						1		1
Dairy Products.....	266	159		43	107	247	54	195	2	822
Dessert Powders and Mixes.....	25	5		30	17	109	16	49		186
Eggs and Egg Products.....	4	2		11	6	1		12		24
Fish and Fish Products.....				1				1		1
Food Colours and Flavours.....	13	42	1	12	1,062	170	45	39		1,300
Foods, Oriental.....	18			9	1	4	2	10		32
Fruits, Fresh.....	3			10	62	1	9	60		76
Fruits, Canned.....		5					1			5
Fruits, Dried.....				3		17				20
Fruits, Glazed or Candied.....	185	155	1	32	1,068	390	24	10		1,831
Gelatin.....			8	1		13				13
Honey and Honey Products.....								1		9
Jams and Jellies.....	1					16		1		17
Juice and Syrups.....	114			1	10	114	17	24		239
Lard and Shortening.....	50	8		13	4	33	5	30		108
Liquors, Distilled and Fermented.....	2			2	1		1	3		5
Meat and Meat Products.....	2			1				1		3
Nuts.....	164	1	1	2		174	20	2	1	342
Oils.....	251	1,127	8	283	1,575	455	106	31		3,699
Pickles.....	12	21		3	2	1		4		42
Preservatives.....	3			1		1		1		5
Salad Dressings, Sandwich Spreads and Other Condiments.....				1	1			2		2
Soup and Soup Mixes.....	17	3	1	11	1	18	9	13		51
Spices.....	1			4	6	4		10	1	15
Sugar and Substitutes.....	56	203		2	12	87	6	29		360
Sweeteners, Artificial.....	5	1		1			1	2		7
Syrups and Molasses.....										
Vegetables, Canned.....	251	108		5			2	14		364
Vegetables, Dried.....	4			7	1	9	1	8		21
Vegetables, Fresh.....	8	1		10	3			4		22
Vinegar.....	1					1		2		2
Water.....	13	43		1		5	3	9		62
Miscellaneous.....		3	3					4		6
Grand Totals.....	42			8	32	4	1	69		86
Grand Totals.....	1,584	1,933	69	533	4,014	1,945	*329	*746	*4	10,078

\* These totals are not included in the right hand column.



## HEALTH INSURANCE STUDIES

### National Health Program

The continued development of the National Health Program during the fiscal year under review remains as one of the outstanding features in the development of health services in Canada.

Over \$29,300,000 was paid to the Provinces for the development of their health services and for the construction of hospitals and related facilities.

The year 1953-54 was the sixth year of the operation of the program inaugurated by a statement of the then Prime Minister on May 14, 1948. The program, as announced in 1948, consisted basically of three aspects: a survey of provincial health facilities and services, a survey of sickness in Canada and provision of funds for expansion and improvement in the field of health services, including assistance towards the construction of hospitals.

#### Surveys

With one exception, the provincial Health Surveys, made possible by grants under the National Health Program had been received. The great body of factual information contained in these reports, including all health insurance references and recommendations, was given careful study. Sections of the proposed national report on the provincial health surveys have been prepared and are under review by the Provinces concerned.

Data from the most comprehensive study of illness and disability ever undertaken in Canada—Canada's Sickness Survey—continue to be analyzed. The great amount of information gathered will allow a searching study of the extent and economic implications of illness in Canada. A series of four publications have been released providing preliminary estimates in considerable detail, on the components of the national consumer health bill, including its size and distribution among the various items of health care. Estimates of family health expenditures according to family size, income class and expenditure group, have been published, both in terms of the national picture and, for certain items of health care, on a provincial and regional basis. Further bulletins will be published at regular intervals on the nature and extent of illness, the amount of sickness-days involved and the volume of medical, hospital, dental and other health services purchased or otherwise received by the population.

These two surveys jointly provide the basic information upon which planning for Canada's health is done.

#### Three New Grants

In view of the remarkable progress in hospital building during the first five years of the National Health Program it was found possible to scale down the Hospital Construction Grant for the next five year period, thus releasing funds for the introduction of three new Grants to help provide (a) improved health services for mothers and children; (b) improved health services for disabled persons; (c) improved laboratory and radiological facilities and services.

The purpose of the Child and Maternal Health Grant is to extend and improve health services for mothers and children. The judicious use of the grant will result in the saving of mothers' lives, an improvement in the health of mothers, and a saving of infant lives whose loss is frequently related to the care of the mother during pregnancy and at delivery. The first year of the Grant has been one of organization and planning within the Provinces. Four Provinces have submitted plans for the utilization of the Grant, indicating areas of immediate need. Plans from other Provinces have been delayed, in some instances because a more detailed study of provincial facilities and services is being undertaken as a basis for future planning. Projects approved have included equipment for the care of newborn particularly, and a number of training projects for nurses in maternal and child care.

In order to ensure the development of well planned rehabilitation services under the Medical Rehabilitation Grant the Provinces were asked to submit a general medical rehabilitation plan. Already, five Provinces have submitted preliminary outlines of their medical rehabilitation plans, and it is anticipated that further provincial programs will be received in the very near future resulting in a more accelerated use of the Grant in the next fiscal year. As the full development of rehabilitation services is entirely dependent on the supply of qualified personnel more emphasis was given towards the approval of projects for the training of bracemakers, physiotherapists, and others, in order to provide better qualified personnel in the developing field of medical rehabilitation.

The administration of the Laboratory and Radiological Services Grant has as its objective: (a) the improvement of the quality and the extension of diagnostic services and, thus, the improvement of medical care in general; (b) the stimulation of a better distribution of medical man-power by the provision of diagnostic facilities to areas not already served; (c) the reduction of personal expenditures for diagnostic services. Under the stimulus of the financial assistance available under this Grant the Provinces embarked on plans and programs for the development of better diagnostic services to their people. As in other health fields, the basic obstacle in the development of suitable diagnostic services was the lack of trained personnel; this applied to medical specialists trained in pathology and radiology, to scientific personnel trained in various disciplines of science, and to technical personnel. After preliminary assessment of their needs the Provinces submitted requests for assistance with the training of personnel and basic scientific equipment. Facilities have been developed for the training of laboratory and radiology technicians in almost all Provinces, and bursary assistance given on provincial recommendations for the training of selected personnel.

### **Assistance Towards the Development of Health Services**

When the National Health Program was inaugurated in 1948, one of Canada's most urgent health problems was the shortage of trained workers in the various health fields. During the year under review, as in the preceding years, substantial amounts of money have been voted towards the training of personnel, which, as in previous years, took the form of bursaries for persons selected by provincial authorities and assistance towards the establishment of courses and other educational facilities organized or sponsored by the Provinces.

Training of mental health personnel, i.e. psychiatrists, clinical psychologists, psychiatric social workers, and psychiatric nurses, has been developed at Laval, McGill, Dalhousie and Queen's Universities, as well as the Universities of Toronto, Montreal and British Columbia.

Assistance towards the training of nurses primarily took the form of supporting experimental pilot plans which had as their aim the improvement of the quality of training as well as the shortening of the training period. The new nursing school at the Maisonneuve Hospital in Montreal and the special school affiliated with the Toronto Western Hospital serve as examples. Assistance was further provided for new scientific and technical equipment for many nurse-training schools. Several centres for the training of nursing aides have received substantial assistance.

Over 6,500 health workers have received or are receiving training with the assistance of the National Health Program. They include specialists in public health, psychiatry, tuberculosis, cancer, radiology, pathology, surgery and many other categories. For nurses, a wide field has also been covered with bursaries provided for training in public health, teaching and supervision, operating-room techniques, obstetrics, paediatrics, psychiatry and other nursing fields. Other technical personnel trained under the Grants include dentists, sanitary engineers, sanitary inspectors, veterinarians, industrial engineers and health educators.

### **Health Facilities and Services**

Achievements in the general public health field have centered on the continued strengthening of provincial health administrations, expansion of local services and assistance in specific health services. All Provinces have received federal assistance to develop their central health administration. The development of health services at the local level, for urban health departments, health units and for areas without fully organized health services is an impressive story of a nation-wide effort to bring health services to the people. Public health laboratory services were improved considerably during the year and arthritis and rheumatism travelling and stationary units continued to expand as trained personnel became available.

The National Health Program has helped substantially in lowering the mortality due to tuberculosis. Many lives were saved by the provision of modern scientific equipment and the free distribution in sanatoria of life-saving drugs such as streptomycin, P.A.S. and isonicotinic acid hydrazide. Community health services have been strengthened and programs for X-raying hospital admissions established under the National Health Program were expanded.

Cancer diagnostic and treatment services have been extended during the year. Federal assistance was given to laboratory and pathological services, the training and employment of more cancer specialists, the purchase of radium and isotopes, the extension of biopsy services and to the setting up of provincial case registries and intensified provincial programs of health education so essential to success in the fight against this disease.

### **Assistance to Hospitals**

As in the previous years, the development of new Provincial plans for hospital construction continued. During the last six years over 50,000 hospital beds have been constructed with the assistance of the Hospital Construction Grant, in addition to over 6,000 bassinets for newborn babies and 6,300 beds in Nurses' Residences.

In addition to federal aid towards the cost of constructing hospital buildings, very substantial assistance has also been given under other Federal Grants towards the purchase of scientific and technical equipment to be placed in key hospitals as part of province-wide planning for health.

## Studies on Health Insurance

Continuous study has been made in association with the Research Division, which acts as a research arm of the Directorate, of Canadian prepaid medical and hospital plans under both public and private auspices. A comprehensive study of the major non-profit medical insurance plans in Canada, including the people covered, the scope of benefits offered and financial experience, has been completed and will be published shortly. A similar study of provincial medical-care programs for public assistance recipients and certain hospital-care plans is under way. Recent developments in medical-care programs in other countries have been followed closely, particularly those in Scandinavia, Australia and the United States. A comparative analysis has been made of the financial aspects of health-care programs in Great Britain, New Zealand, France, The Netherlands and Scandinavian countries, for departmental officials, and further publications on additional countries will be released from time to time.

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## INDIAN HEALTH SERVICES

### Function

The majority of Canadian Indians and Eskimos inhabit areas where the medical attention available in the more populated parts of the country does not exist. Their economy does not permit long and expensive journeys to seek attention. In recognition of these facts the federal government has allotted funds to Indian Health Services to provide basic public health services and essential treatment, either within its own resources or through arrangements with appropriate health agencies. As groups become able to obtain these services through their own resources, they are encouraged to do so. Some groups are largely dependent in this respect and others increase their degree of contribution each year as circumstances permit.

The latest census in 1949 gave the number of Indians as 136,500 and estimated the number of Eskimos at 9,300. While the death rate is very high, the birth rates also are above average, and the net increase in native population is close to  $1\frac{1}{2}$  per cent. It is fair to estimate the 1953 population at more than 156,500.

Administration of all aspects of Indian Affairs, other than health, is the responsibility of the Department of Citizenship and Immigration, while administration of the Eskimo population lies with the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources.

Each year a small number of Indians—approximately 1,000—become enfranchised, accept full Canadian citizenship and obligations, and renounce the privileges of the treaty Indian. Only a very few Eskimos are able to take this step.

### Facilities

The basic treatment unit has been a solitary doctor or graduate nurse providing service from a Health Centre consisting of a dwelling and office. There were 65 of these units in operation during the year. There was one in Cape Breton, several on Vancouver Island, one at Aklavik near the mouth of the Mackenzie River in the Western Arctic and one at Pangnirtung on Baffin Island in the Eastern Arctic. The remainder are located strategically between these points. From these centres the professional officers extended public health practice and provided curative care within the limits of local resources. Their first concern has been protective inoculations and health education. In addition to the diseases common to the other parts of the population these officers must be alert to conditions peculiar to Indians or Eskimos such as tularaemia, hydatid disease, trachoma and tuberculosis in its many forms.

If, in addition to dwelling and office there are a few beds for the care of less serious disorders such as respiratory infections, minor accidents and maternity cases, the unit is called a nursing station. There were 33 of these providing a total of 160 beds and bassinets as required, and staffed by a nurse and a practical assistant. The amount of bed care required is so consistently high that preventive public health work has had to be somewhat curtailed.

At ten centres a team of one or two medical officers together with graduate nurses provided preventive and curative care. The nurses concentrated on public health work but assisted the medical officers in conducting clinics. Generally the medical officers made use of local hospital facilities as well.

A similar team operated from twelve of the eighteen departmental hospitals, the nurse devoting her attention to public health work while the medical officer assisted in field work but used the hospital for the necessary in-patient care.

Altogether there were 36 medical officers and 106 graduate nurses devoting their time fully or in large part to public health work. Their activities were augmented by 11 dental surgeons again concerned chiefly with prophylactic attention and dental health education directed mainly to children of school age.

While this field force was substantial, its effectiveness was extended incalculably by the scores of missionaries, traders and public servants of all departments of government who dispensed medical supplies provided by the department and generally proffered the assistance which no one but the sympathetic neighbour can give. While a number of dispensers receive a token stipend, many of them give their services generously and gratuitously.

The eighteen departmental hospitals had a rated capacity of 2,113 adult beds and 110 bassinets. The number of beds in use frequently exceeded these figures because of urgent requirements. The larger hospitals are sanatoria for the treatment of tuberculosis although they have served as general hospitals for local groups of Indians. The smaller hospitals had the role of a rural community treatment centre. The professional staff consisted of 51 medical officers and 232 graduate nurses.

The total number of full-time employees providing this medical service was 1,505. Among these were 167 Indians and Eskimos. Up to 250 natives were employed on an hourly basis.

## Preventive Procedures

Reinforcing and extending the immunity provided by protective inoculations, the professional staff carried on an active campaign of education aimed at preventing disease by good health habits. All the appropriate materials prepared by the Information Services Division for the Department were used for this purpose. In addition to those already in wide distribution, two new filmstrips were completed. One deals with "Infantile Diarrhoea", the other with "Hydatid Disease". This latter disease is a condition found almost exclusively in those who live off moose and caribou in the northwest. Topical posters having to do with the control of tuberculosis were bought. One poster was produced. Its design was adapted from a winning entry in the poster design contest held each year among the Indian school children in British Columbia. This poster has been used by the provincial health authority as well as in Indian Health Services work across the country. Extensive use continued to be made of the appropriate material in National Film Board libraries.

## Case Finding

This activity continued unabated, being an essential tool in accomplishing the Services' objective of a satisfactory standard of health for native people. Case finding is carried on continuously in Departmental hospitals and through regular surveys. At least 60,000 chest plates of Indians, Eskimos and others were taken during the year. These surveys attempt to cover the entire population in areas visited. Provincial surveys reciprocated by x-raying Indians when they were in the minority. This reciprocity typifies the excellent working relationships which exists with provincial public health agencies.

Many surveys were conducted in association with annual treaty payment trips and official visits. The usual annual health survey was conducted in conjunction with the Eastern Arctic Patrol which covered the Hudson Straits and the East Coast of Baffin Island. The James Bay survey covered both coasts

of James Bay and part of the east coast of Hudson's Bay. A long-term, concentrated health survey was commenced in the Abitibi area of Quebec. Other comprehensive health surveys were carried out in many areas of the country inhabited by Indians and Eskimos. A survey in the Yukon Territory was cancelled due to the outbreak of poliomyelitis in that area.

Although surveys were primarily for tuberculosis they were designed to detect eye disorders, dental and parasitic diseases as well.

Case finding continued to disclose a variety of incipient diseases and conditions which, although not serious, require treatment.

### Active Treatment

Certain data concerning the patients treated in hospital are presented in Tables 4, 5 and 6, appended. They show an increase in volume of hospital care of 4.1 per cent. This is what would be expected from a growing population gradually becoming more health conscious.

The professional attention provided by several hundred private practitioners of medicine, dentistry and allied sciences remained consistent. There was a small increase in the number of lay persons willing to lend their interest and varied skills in providing elementary medical attention to the Indians and Eskimos among whom they reside.

### Tuberculosis

Because of environmental factors the incidence of tuberculosis is high among native peoples. Death rates are influenced by the severity of the climate and the occupations and the health habits of the people. The most significant reductions in any group will be made through improving its health habits. That this improvement is being made rapidly is reflected in the death rate of 167.5 per 100,000 of population in 1952 as compared to 549.1 five years previously. Final figures are not available for 1953 but the indications are that a further substantial reduction has been achieved.

### Extension of Services and Facilities

There was a further small expansion of public health staff and facilities which helped to reduce the inadequate coverage in many areas. Since it is accepted that the greatest strides will be made through improved health services and education, continuous efforts were made to close some of the existing gaps. Accommodation was provided for 8 new Health Centres while 13 additional public health nurses were appointed in areas formerly not covered and 7 were appointed to provide essential additional coverage.

Two supervisors of public health nurses were appointed to assist in this work.

At headquarters, a highly qualified medical officer was appointed to act as a consultant on the treatment program so that Indian Health Services would keep abreast of the rapidly advancing developments in medicine.

Five new positions for medical officers in hospitals and four in the field service were obtained as well as two new positions for dental surgeons.

Four additional treatment beds were added by the opening of a nursing station at Hay Lake, Alberta and extensive improvements were made at various institutions including additional staff accommodation at Norway House, Moose Factory and Hobbema.

TABLE 4

## INDIANS

Movement of Patient Population\* in Departmental and Non-Departmental Hospitals  
During the Calendar Year 1953

INDIAN POPULATION 1952: 144,227

	General	Tuberculosis	Mental	Total
Total Admissions (Including Transfers).....	32,244	3,007	95	35,346
Admissions per 1,000 Population.....	223.6	20.8	0.7	245.1
Total Patient Days.....	401,520	965,593	102,128	1,469,241
Patient Days Per Capita.....	2.8	6.7	0.7	10.2
Discharges.....	30,539	2,170	64	32,773
Transfers Out.....	981	630	3	1,614
Deaths.....	480	87	15	582
Total Separations.....	32,000	2,887	82	34,969
Patient Days of Separations.....	380,658	983,873	76,570	1,441,101
Average Stay of Separations.....	11.9	341	934	41.2

\* Excluding newborn.

TABLE 5

## ESKIMOS

Movement of Patient Population\* in Departmental and Non-Departmental Hospitals  
During the Calendar Year 1953

ESKIMO POPULATION 1952: 9,300

	General	Tuberculosis	Mental	Total
Total Admissions (Including Transfers).....	651	376	2	1,029
Admissions per 1,000 Population.....	70.0	40.4	0.2	110.6
Total Patient Days.....	20,041	125,875	2,907	148,723
Patient Days Per Capita.....	2.2	13.5	0.3	16.0
Discharges.....	531	235	3	769
Transfers Out.....	30	77	0	107
Deaths.....	19	26	0	45
Total Separations.....	580	338	3	921
Patient Days of Separations.....	14,515	108,916	960	124,391
Average Stay of Separations.....	25	322	320	135

\* Excluding newborn.

TABLE 6

## INDIANS AND ESKIMOS

Movement of Patient Population\* in Departmental and Non-Departmental Hospitals  
During the Calendar Year 1953

COMBINED INDIAN AND ESKIMO POPULATION 1952: 153,527

	General	Tuberculosis	Mental	Total
Total Admissions (Including Transfers).....	32,895	3,383	97	36,375
Total Patient Days.....	421,561	1,091,468	105,035	1,618,064
Patient Days Per Capita.....	2.8	7.0	0.7	10.5
Total Separations.....	32,580	3,225	85	35,890

\* Excluding newborn.



## ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS

### Occupational Health Division

#### Function

The Occupational Health Division, comprising clinical, nursing, laboratory, and technical and educational information services, is chiefly concerned with the promotion and maintenance of a high standard of health of workers throughout Canada. The services of the Division are available to other federal departments, provincial health departments, industrial establishments, certain crown companies and other interested groups.

#### Clinical Services

On request, clinical assistance was provided to federal and provincial government departments in regard to various problems.

#### Clinical Investigations

*Toxic Substances*—For the Post Office Department, this involved the assessment of the toxicity of a new solvent which the department proposed to use and for the National Research Council an investigation relating to carbon monoxide poisoning.

*Dermatitis*—A request was received from the Post Office Department concerning a new aspect of the problem of dermatitis. Investigation by members of the clinical and laboratory services revealed that the alleged source was not a contributing factor.

*Environmental Problems*—The Post Office Department and the Department of Transport requested investigations of environmental factors associated with working conditions. In each case, a thorough clinical survey was made by the Division and the results of these investigations were submitted to the departments concerned along with recommendations for improvements.

*Ventilation*—Problems of ventilation in low temperature laboratories were dealt with for the National Research Council and during this study the hazard of freezing of the lungs during exertion at very low temperatures was brought to light.

In addition to the above activities, visits were made to plants of Canadian Arsenals Limited to investigate and discuss certain potential health hazards associated with manufacturing processes and to advise on suitable medical services.

#### Committee Membership

In the field of pesticides, a medical officer of the Division is a member of the National Health Pesticide Committee while another represents the Division on the Technical Advisory Board on Air Pollution of the International Joint Commission on questions of air pollution.

### Consultative Assistance

During 1953 there was an increasing number of requests from general practitioners for information regarding poisonous materials in regard to patients under treatment. During the year, clinical advice relating to occupational health problems continued to be provided, on request, to other federal departments, provincial health departments, professional groups, industry, and health agencies in other countries.

### Consultant Nursing Services

The total program of the Nursing Consultant is planned on a public relations pattern. The objective is to interpret and promote good nursing services in occupational health. The services of the Nursing Consultant were extended, upon invitation, to industrial nursing groups, to individual industrial management, to universities and hospital schools with nursing education programs, and to other professional groups. Among the special activities were the following:

*Educational Programs*—To maintain and improve the quality of nursing in the broadening industrial activities of Canada, educational programs, including institutes of one to three days' duration, were arranged through the co-operation of university and professional nursing groups. An example is the institute which was held at the University of Ottawa in September, 1953, attended by industrial nurses from Ontario, Quebec, and New Brunswick. One-day institutes have had special appeal and several of these have received the full attention of the Nursing Consultant. Other educational projects included panel discussions, with representatives from industrial management, medicine and nursing acting as panel members. Lectures on the various aspects of industrial nursing were given to postgraduate and undergraduate university nursing students.

*Visits to Industries*—Upon invitation from industrial management and the industrial nurse, consultation services have been rendered with the aim of increasing the value of occupational health nursing. Assistance was also provided to certain branches of the Armed Services in regard to occupational health nursing for civilian employees.

### Laboratory Services

The Occupational Health Laboratory in Ottawa has been developed so that industry, labour, and professional groups throughout Canada will have access to the full range of modern scientific advances in the task of protecting health in orchard, field, mine, and factory. To provide such a laboratory, it has been necessary to bring together personnel and equipment covering a number of fields of scientific specialization.

A scientific group of twenty-two and a service group of eight make up the staff. This personnel and the scientific facilities have been organized into sections covering Analytical Chemistry, Physical Chemistry, Field Operations, Physics, and Toxicology. However, many problems require the co-ordination of all the above sections.

The program of work covers three main areas of activity: Consulting Services, Field and Laboratory Investigations and Research.

## Field Investigations

*Air Pollution*—In co-operation with the clinical services, the field and analytical chemistry sections concluded their studies of air-borne arsenic pollution in the Yellowknife-Northwest Territories area.

*Pesticides Study*—An investigation of the health hazards associated with the use of the organic insecticide parathion in Quebec apple orchards was continued by the field section during the summer of 1953 in co-operation with the Quebec Division of Industrial Hygiene.

*Water Pollution*—During the closing months of the year, field officers of the laboratory and a clinical officer aided in the investigation of pollution of the North Saskatchewan River in Alberta.

*Industrial Dusts*—The engineer of the field section assisted members of the Manitoba Department of Health in a survey of dust hazards in foundries.

## Laboratory Investigations and Research

*Laboratory Analyses*—The analytical and physical chemistry sections carry out analysis of air samples and biological fluids submitted by the field section, and similar investigations are carried out for the clinical services of the Division in connection with referred poisoning cases. During 1953 the analytical chemistry section conducted microchemical research directed toward identification of sub-microscopic particles in urban air in conjunction with electron microscopy. The analytical and physical chemistry sections assisted in laboratory tests on polluted water from the North Saskatchewan River, employing chemical and infrared methods of analysis. An investigation of the performance characteristics of continuous insecticide vaporizers was conducted for the Canadian Standards Association and physicochemical investigation of gases and droplets in urban air was initiated.

The physics section, which is responsible for application of physical methods to the study of industrial dusts and other toxic materials, carried out the following:

(1) Quartz estimations on industrial dusts which may be submitted by any official group or industry. This is a free service.

(2) Investigation of the nature of crystallites in urban air pollution, using X-ray diffraction.

(3) Characterization and identification in the sub-micron range of air pollutants in Canadian cities, in co-operation with the analytical chemistry section.

Techniques of X-ray diffraction and electron microscopy were employed in the above activities.

*Experimental and Research Work*—The toxicology section is responsible for maintaining an up-to-date literature on the toxicity of chemical compounds employed in modern industry. This literature is summarized frequently and toxicity evaluations of particular compounds are issued to various authorities throughout Canada. This section also carries out experimental work on toxicity of new chemical compounds for industrial use, and this work is done chiefly with small mammals. In addition, this section is responsible for assistance with health evaluations of new pesticides presented by industry to the Department of Agriculture for licence. These evaluations are intended to protect the worker and consumer and include a check on precaution labels. This consultative work was done on behalf of the National Health Pesticide Committee. Considerable attention was directed towards the new organic

insecticides, with particular reference to the chlorinated hydrocarbons. An exposure chamber for studying mammalian toxicity by inhalation was completed during the year, and another chamber specifically designed for air pollution work is almost ready for use.

*Special Activities*—Laboratory personnel have served in a consultant capacity in connection with the activities of twenty committees related to occupational and public health problems.

### Health Radiation Services

Radioactive isotopes are now being used in more than 150 centres throughout Canada. They have proved of great benefit to medicine, scientific research, and industry; and the Health Radiation Section has continued to provide health supervision over the use of radioactive isotopes to ensure that these materials are being used in a safe manner.

*Film Monitoring*—The film monitoring service has been greatly expanded during the year and over 100 groups now receive this service, which involves the processing of over 1,000 films per week by the Health Radiation Section. Thus, over 1,000 persons exposed to the more penetrating radiations are provided with a weekly check on their exposure. Research has been conducted to develop a special film for monitoring diagnostic X-rays, and when this service becomes available many operators of this type of X-ray equipment will be added to the rapidly growing list of radiation workers provided with a regular, simple, and reliable exposure check.

*Radiation Studies*—Studies on stray radiation were carried out in a number of establishments using X-ray equipment, including radiology departments, treatment centres, doctors' and dentists' offices. From the results obtained by this service, the ability of the section to give advice regarding safer operating methods was enhanced. Consideration was given to the possible health hazards of static eliminating devices, pharmaceutical products, and paints containing radium, and a practical method of health supervision in radium dial painting was adopted. The above was a result of close co-operation with provincial departments of health.

### Educational and Technical Information Services

The Division publishes three periodicals, a monthly Occupational Health Bulletin, a semi-annual Occupational Health Review, and a bi-monthly Pesticide Bulletin.

*Occupation Health Bulletin*—The Bulletin contains material on occupational health and safety for the worker and is distributed chiefly to individual industries, to industrial nurses, to industrial safety supervisors, and other interested agencies and persons. During the latter part of the year, the Bulletin mailing list was revised to include only those who expressed an interest in receiving it. Assessment of returns indicated that the new mailing list would be about 15,000.

*Occupational Health Review*—The Review is a technical publication intended for professional, medical and technical personnel concerned with health protection of gainfully employed persons. Some 13,000 copies, an increase of 1,000 copies over the previous year, were distributed to satisfy a growing demand.



*Pesticide Bulletin*—This publication, dealing with the health hazards and toxicity of the various insecticides, and other pesticide preparations, is distributed in about 200 copies to professional medical and scientific personnel who are concerned with the health aspects of pesticides in Canada.

All publications are produced in both English and French.

### National Health Pesticide Committee

This Committee is under the chairmanship of the Chief of Laboratory Services, with three laboratory officers and a Divisional clinical officer serving in specialized capacities. Membership comprises representatives from two Divisions of Science Service and one Division of Production Service, of the Department of Agriculture, and from the Food and Drugs Divisions and the Occupational Health Division, of the Department of National Health and Welfare.

The increasing use of potentially toxic organic chemicals by the Canadian public for control of insect pests has required that the use of such chemicals be carefully controlled in the interests of safety. The complexity of considerations involved in assessing the hazard of a chemical necessitated the joint services of experts in a variety of fields including toxicology, chemistry, industrial hygiene, and entomology. The National Health Pesticide Committee, consisting of experts in these fields, carries out hazard evaluation on new compounds.

The Committee has served primarily the Production and Science Services of the Department of Agriculture. In addition, technical advice has been rendered to the Food and Drug Divisions, Civil Aviation Medicine Division, and other sections of the National Health Department. Miscellaneous federal and provincial agencies, as well as industry, trade and growers organizations, have received assistance from the Committee. During the past year the Committee held fifteen meetings.

### Activities of the Committee

*Classification of Toxicity of Pesticides and Labelling Scheme*—This requirement, basic to preparation of precautionary warning on labels approved under the Pest Control Products Act, has been met by the design of a suitable toxicity data summary form. Four toxicity classes have been devised and precautionary notes for labels drawn to suit each class.

*General Specifications of Health Data to Be Required as Support for Licences*—A special sub-committee has drawn a set of acceptable specifications providing guidance for industries presenting new products for licence.

*Products and Items Reviewed during the Year*—During the fiscal year 1953-54, forty-one products and ninety-six items were reviewed.

*Special Problems Dealt with during the Year*—Problems associated with aeroplane dusting, seed treatment of grain in country elevators, dermatitis among Post Office mail carriers, design of exposure chamber for Department of Agriculture, and a new parathion antidote, were dealt with, and advice was given to various persons and groups concerned with the health aspects of pesticides.

*Experimental Studies Carried out for the Committee*—The Occupational Health Division has undertaken to carry out a series of investigations in health hazard evaluation of pesticides under consideration by the Pesticide Committee.

Assistance has also been rendered by the Food and Drugs Laboratory, the Quebec Division of Industrial Hygiene, and the Fruit Insects Investigation Unit, Science Service, Department of Agriculture.

### **Canadian Standards Association Committee on Safe Standards for Insecticide Vaporizers**

This Committee was set up in September, 1953, to improve the safety aspects of insecticide vaporizing devices used widely throughout Canada for fly control.

The Committee held six meetings during the latter six months of the fiscal year and completed a safe standard for continuous lindane vaporizers. Three laboratory officers served on this Committee with representatives of federal, provincial, and municipal agencies, professional bodies and the trade. Additionally, a Divisional clinical officer acted as consultant to the Committee.

## **Public Health Engineering**

During the past year the activities of the Public Health Engineering Division reflect very significantly the broadening aspects of environmental sanitation and its complex problems. Post war developments of our natural resources and the rapid industrial expansion which has taken place in Canada have had a marked influence in these activities. The application of engineering principles in the control of those forces and processes which affect our environment presents an ever widening range of opportunity for greater service. The knowledge and experience of the public health engineers is reflected in the demands made upon their services during the past year across the breadth of this country and extending to Aklavik in the far North. Services of this Division are provided through a direct program and through technical consultation with other agencies concerned with problems of mutual interest in the field of sanitation.

### **Functions**

Functional activities of the Division are directed to those phases of the environment which have a bearing on the health of travellers, the operating personnel of railways, vessels, and aircraft; of visitors to national parks and other federal property, and employees. In addition, the Department is responsible for the enforcement of certain international requirements governing the handling and shipping of shellfish.

Federal legislation authorizing this work is contained in a number of acts, notably the Department of National Health and Welfare Act, 1944, with particular reference to Section 5 (a), (d), (e) and (f), the Public Health Act and Regulations concerning water for drinking and culinary purposes on common carriers, and the regulations governing the inspection and supervision of the handling and shipping of scallop meat.

In the administration of the responsibilities contained in the several acts and regulations, attention has been given to the examination of water and ice supplies and subsequent assessment of their respective quality; the handling of food and drink aboard passenger trains; treatment and disposal of sewage, garbage and other wastes on railway property; sanitation on the right of ways of interprovincial and international railways including passenger stations, restaurants, bunkhouses and mobile work camps. Water supplies on federal

property were also examined on a number of occasions, as well as restaurant facilities. Working conditions in federal offices in relation to lighting, ventilation and space requirements received attention on request.

Field investigations, sanitary surveys, and examination of water, sewage and industrial waste treatment processes with subsequent evaluation of findings continued to constitute a major portion of the Division's work program. These studies were made in an effort to effect and maintain adequate control measures.

### **Co-operation with Other Federal Agencies**

Every effort was made in the work program to render assistance to other federal departments when advice was sought with respect to problems in sanitation. The Yukon and Northwest Territories received particular attention where sanitary surveys were made at Coppermine, Fort Smith, Yellowknife, Aklavik and Norman Wells. Thermocouple data was obtained on a continuing research project at Yellowknife where a study is being made to determine the effect of soil temperatures on underground services.

Other federal problems on which assistance was rendered included the examination of a large number of sewage disposal treatment plants at National Defence establishments. New plants under construction were also assessed and recommendations made with respect to their adequacy. The extension of services at Indian Residential Schools and Hospitals presented many problems in both water supply and sewage disposal treatment. This involved detailed engineering surveys, design and preparation of plans for the necessary works.

The Division's interest in National Parks was actively pursued and close co-operation was maintained with the Parks Branch, Department of Northern Affairs and National Resources on matters of mutual concern. Many improvements have been effected by modernization of existing services or by their replacement with new facilities for water and sewage treatment.

Active participation was continued through representation on various Advisory Boards of the International Joint Commission toward the solution of problems of water and air pollution and their control. Boundary water pollution projects involved industrial waste surveys at Sault Ste. Marie, Sarnia, Windsor and the Niagara frontier in the Province of Ontario. Investigations of conditions existing in Rainy Lake, Ontario, resulting from mining operations were continued; data collected indicated that the revised disposal methods for dredged material continue to be effective and appear adequate in the control of pollution resulting from these wastes.

### **Provincial Co-operation**

Through committees and health agencies direct assistance on problems relating to environment health formed an active part of the year's program. Most significant of these various endeavours had to do with the pollution investigation of the North Saskatchewan River resulting from the discharge of industrial wastes at Edmonton, Alberta. This was a co-operative effort between the three prairie provinces concerned and this Federal Department.

Mention is also made of pollution studies of the St. Charles River, source of water for the City of Quebec, carried out in co-operation with officers of the Quebec City Health Department, and Quebec Provincial health authorities. This study had to do with conditions created in the St. Charles River by the discharge of laboratories and plant wastes from establishments of the Department of National Defence and Defence Research Board. Also, at the request of the Dept. of National Defence a survey of the Jacques Cartier River was conducted for the purpose of determining the present status of sewage treatment at Valcartier Military Camp, and to advise on future requirements for a new treatment plant.

## Grants

Through Federal Public Health Grants a total of \$595,249 was expended on environmental health projects. Of this amount \$70,797 was allocated for research purposes; \$55,054 for the training of sanitary inspectors, sanitary engineers and veterinarians; and \$469,398 for the employment of environmental sanitation personnel for local health units and city health departments. These funds have enabled studies to be initiated on water pollution abatement, milk processing procedures, milk producing and milk product plants. They have also provided engineering and inspection services relating to treatment and provision of water supplies, dairy sanitation, and restaurant hygiene.

## Shellfish Control

The tripartite agreement between this Department, the Department of Fisheries, and the United States Public Health Service, to certify approved shellfish producers, continues to form the basis of shellfish control work in the Maritimes. When requirements governing the taking, handling, shucking and packing of shellfish have been met certificates for the export of shellfish are issued. Through joint sanitary surveys and co-operative supervision of processing plants, the shellfish control program of British Columbia has been endorsed and approved producers are certified for export purposes. It is anticipated that a shellfish control program will soon be initiated by the Province of Quebec similar to the program adopted by British Columbia. This has been brought about at their request and has involved frequent conferences and consultation with provincial fisheries authorities and field surveys of shellfish areas within the province.

## Laboratory Services

At William Head, British Columbia and St. Catharines, Ontario, chemical laboratories of the Division have contributed greatly to the service offered and accepted by various federal departments for water analysis. At St. Catharines approximately 900 analytical determinations were made and through such analyses it was possible in many instances to draw attention to specific corrective measures in water treatment. These facilities were utilized extensively for analytical work in connections with pollution studies on boundary and other waters and for industrial waste effluent surveys.

## Publications

The Division published one new bulletin entitled "Domestic Sewage Disposal" and its demand has already exceeded 12,000 copies. At the request of the Advisory Committee on Public Health Engineering, a monthly release of a technical news bulletin was inaugurated. A number of technical papers were presented before professional gatherings or conferences by members of the Division.

## Field Work Summary

In all 664 sanitary surveys of water supplies, ice supplies, (natural and artificial) and shellfish growing areas were conducted. Over 6,550 water samples were taken for analysis. Some 656 examinations of railway property including stations, restaurants, bunkhouses, mobile work camps and coachyards were made. A total of 233 sewage treatment plants were examined to check their operation. During the year some 200 vessels' sewage systems were examined for compliance with statutory regulations.



## MEDICAL ADVISORY SERVICES

### Blindness Control Division

The Blindness Control Division continued its educational work by means of pamphlets, films and material for radio programs. The Division takes an active part in the Health Grants Program, advising oculists and medical authorities concerning grants for eye research and the preservation of vision. The bulk of the Division's work consists, in co-operation with the provinces, in the administration of blindness allowance under the Blind Persons' Act. This includes eye examinations, issuing of blindness certificates and the supervision of the treatment scheme.

#### Treatment Scheme

This scheme, initiated by the Division in 1949, is designed to restore vision to suitable recipients of blindness allowance. It is now effective in eight provinces. Some 149 recipients have been treated of whom 43 received treatment in the past fiscal year. Good vision has been restored in more than half of these cases, usually by cataract operation. However, only a small proportion of recipients of blindness allowance whose eye conditions would be amenable to treatment, actually desire it. Those recipients who refuse treatment are usually elderly and either fear the operation or wish to retain their allowance. The Government of Canada reimburses the province for seventy-five per cent of the cost of treatment under this scheme.

#### Glaucoma

Glaucoma causes more blindness than any other eye disease. The common chronic type of glaucoma is insidious in onset—often without symptoms. It can only be diagnosed in its early stages at a time when treatment is most effective by a medical eye specialist. The disease could be brought under better control if an examination by a medical eye specialist was included as part of any general periodic physical check up over the age of 40. This is particularly necessary if any change in vision or visual discomfort has been noted. Treatment cannot restore lost vision but further deterioration can be delayed and blindness prevented for years or for life.

Important assistance in combating glaucoma is provided by the four Glaucoma Clinics for needy patients financed entirely by Federal Health Grants. One clinic is situated in Toronto, another in Quebec with two in Montreal. The Blindness Control Division was instrumental in setting up these Clinics and continues to be actively interested in their work. Similar Clinics are needed in other large cities.

#### Eye Research

(1) The Department is continuing research into hereditary optic atrophy in a large family group in the Ottawa area. Genetic, nutritional and ophthalmological studies are under way. Field work is being done by the Nutrition Division. Ottawa ophthalmologists in private practice are also co-operating.

(2) Under the Health Grants Program considerable eye research continues in the Department of Ophthalmology, University of Toronto.

Projects under way concern:

- (i) Eye disease of virus etiology.
- (ii) Keratitis and panophthalmitis.
- (iii) Glaucoma.
- (iv) Causes and treatment of strabismus in children.

## Deafness

A pamphlet concerning ear trouble in children was prepared in the Division during the past year. It will soon be published in the Child Training Series.

During the year under review the Chief of the Division accompanied a travelling eye clinic which examined applicants for blindness allowance in the Gaspé and Magdalen Island areas.

## Civil Aviation Medicine

The Division of Civil Aviation Medicine has continued to serve as medical adviser to the Department of Transport (Air Services Branch), on physical standards for aviation personnel and also to act in an advisory capacity to the Department of Transport, other government departments, interested organizations and the public generally, on the health, safety and comfort of aircrew, groundcrew and passengers by air.

The decentralization of the procedure for the assessment of medical examination reports for aviation personnel has continued and the trial which was carried out in the Department of Transport's District Office in Toronto has been of value to the Department of Transport, the flying clubs, the operators and the pilots. Applicants have been interviewed by the Civil Service Commission for appointment as District Medical Officers in each of the Department of Transport offices.

Training in aviation medicine for the Department of Transport civil aviation medical examiners has continued and an intensive five day course was conducted at the Royal Canadian Air Force Institute of Aviation Medicine for 25 medical examiners and five R.C.A.F. reserve force medical officers.

Investigation has continued in the following subjects associated with aviation medicine, namely, hearing loss amongst personnel licensed to fly commercially by the Department of Transport, crash injury reporting, colour perception requirements for Commercial and Private Pilots, fatigue and hours of duty for Commercial Pilots and Air Traffic control personnel.

Liaison with the Royal Canadian Air Force, the Air Cadet League of Canada and the Royal Canadian Flying Club Association was maintained for the medical assessment of applicants for the Royal Canadian Air Force Reserve Force Flying Training program and Air Cadet Scholarship Flying Training Program.

The R.C.A.F. Institute of Aviation Medicine has continued to assist the Division in the instruction of civil pilots on the medical aspects of flight and investigation of special clinical cases.

## Civil Service Health

The seventh year of operation of the Civil Service Health Division brought major changes in leadership but continuity of philosophy and program has been maintained by promotion of original members of the division. Dr. R. G. Ratz, who initiated this program, designed to conserve and promote the health and well-being of federal government employees, became a Principal Medical Officer in the Department. He was succeeded as Chief of the Division by Dr. E. L. Davey, formerly Assistant Chief. Miss Dorothy M. Percy became Chief Nursing Consultant for the department after completing a fellowship awarded her by the World Health Organization for study in Britain, Scandinavia and the United States. Miss Ethel M. Gordon, formerly assistant Chief Supervisor of Nursing Counsellors, succeeded Miss Percy as Chief Supervisor. These promotions provided for continuation of the very happy relationships which have characterized these formative years and co-ordinated the individual contributions of the team into a composite whole.

The Health Centre has extended advisory, diagnostic and emergency medical services to the approximately 30,000 government employees in the Ottawa area. Health Units in nineteen government building provide nursing-counsellor service to 22,113 civil servants. During the past year, service was initiated at the new Defence Research Project at Shirley Bay and is being carried on in reasonably adequate temporary quarters pending the completion of the permanent health unit. The National Research Council has provided an additional health unit in the Radio and Electrical Engineering Building, Montreal Road, and a half-time nursing-counsellor service is being given. Construction has commenced on a new health unit in the Confederation Building to serve its employees and those in the Justice Building. Negotiations are pending in two other locations which would increase our present coverage of 74 per cent of employees in the Ottawa area to approximately 85 per cent. Shortage of space continues to be the main deterrent, but, wherever possible, departments are making every effort to ensure provision of adequate health services to their employees. Considerable interest has again been expressed by various government departments to have the same health services provided to their employees in centres outside Ottawa.

Changes in the Superannuation Act, effective January 1, 1954, have entailed additional responsibility for this division in the planning and administration of the medical features of the Act. This will increase the volume of medical examinations performed or arranged by our division for employees whose service is to extend beyond age 65 years; employees who may now elect to contribute to the Superannuation Account for back service; and examination every three years of employees retired on medical grounds.

This division was honoured in having its Chief, Dr. E. L. Davey, accompany the Prime Minister on his world tour. This tour afforded an excellent opportunity to study at firsthand the health status of Canadians employed in overseas missions. This was of particular interest since this division acts in an advisory capacity to the Departments of External Affairs and Trade and Commerce on all matters relating to the health of employees posted to or returning from abroad. More recently the scope of its examinations before and on return from such postings had been increased and certain revisions were under consideration. Hence, this opportunity for personal observation is timely and of considerable practical assistance in the development of this aspect of our service to employees and in the recommendations being made to their departments to safeguard the health and morale of Canadians serving in our overseas missions

During the past year harmonious relationships with other departments of government and with other divisions of this department have existed. The co-operation afforded by the Department of Veterans Affairs and by the Division of Quarantine, Immigration Medical and Sick Mariners Services of our own department in the matter of examinations and consultations required outside Ottawa, is especially appreciated. Locally, the Nutrition Division has given valuable support in staff education and in the investigation of nutritional problems. The co-operation of the Occupational Health Division and of the Public Health Engineering Division has also been very helpful in the solution of work environment problems in the public service.

This past year has evidenced further deepening in both the quality and the understanding of our service and increasing rapport within the division, the government service and the community. Emphasis continues to be on prevention in all phases of our service and in the past year this has been particularly true of our mental health program. This has been done through more intensive staff education, circulation of relevant literature and consultations with departmental officers and employees and with staff members of local agencies. This development is timely since it has coincided with and augmented the current extension of mental health facilities in the Ottawa community. The Mental Health grants have made possible psychiatric in-patient and out-patient services at two local hospitals. These will be of great benefit to the whole community and we are happy to be able to assist through interpretation, intelligent referrals and enlistment of understanding co-operation in the on-the-job rehabilitation of employees undergoing psychiatric treatment. Our role of education, early case-finding and liaison is a significant contribution.

The division's active participation in the seminar on alcoholism last October was a further effort in this direction. This was a very successful and commendable venture from the standpoint of quality of program, high enrollment and the fostering of co-operation between administrative and health personnel. It sharpened awareness of their common concern for employees and has had continuing value in effecting closer relationships and concerted planning.

Members of the division continue to participate actively in their various professional groups. There is growing recognition of our nursing staff as a source of professional strength. In September, 1953, a very stimulating and well-attended institute was held in Ottawa for Ontario Industrial Nurses. Our nursing supervisor and senior nursing counsellors took an active part in planning and conducting this institute. They have also assisted in nurse recruitment programs through talks and demonstrations to community groups and high school students.

Last autumn the division again acted in an advisory capacity to the Civil Service Commission during the mass chest X-ray survey conducted throughout the City of Ottawa by the Ontario Department of Health. Participation by the federal civil service in this survey was most gratifying. Results show a decline of approximately 30 per cent in the total incidence of pulmonary tuberculosis since the last survey in 1949. There was a slight increase of from 0.05 per cent to 0.07 per cent in the incidence of active pulmonary tuberculosis. The experience in the federal civil service compared very favourably with that reported in industry generally throughout the province.

Tables 7, 8 and 9, pages 60 and 61, give a detailed analysis of the activities and services rendered by the division during the fiscal year. Table 7 shows the monthly breakdown of visits to the nineteen functioning health units in Ottawa by sex, nature and classification of visits, and disposal. Some 161,000 visits were recorded. Of this total 75 per cent were first visits resulting from



new disabilities, the remainder being follow-up visits for conditions previously reported. As in previous years an extremely low percentage of employees, 2.4 per cent were sent home following a first visit to the health unit.

The decrease in total volume of visits from that recorded in the previous year is largely accounted for by the introduction of the five-day week on a year-round basis. While the number of actual working hours remained the same, the number of half-day periods with the five-day week is reduced by one-eleventh, which reduction is almost identical with that observed in the total number of visits made. Consolidation of services in older established health units, and education by the nursing counsellors for employees to be more self-reliant in dealing with their own trivial problems may be additional contributing factors to this over-all reduction. It is interesting to note that the bulk of this decrease is reflected in the total number of return-to-work visits, that is, visits to the health unit following an absence on account of illness. A sizeable reduction in this class of visit, following the introduction of the five-day week, is most encouraging as it suggests less use and abuse of sick leave.

Approximately one-quarter of all visits made to the Health Units are due to socio-economic or welfare problems and it is in the handling and solution of these cases that nursing counsellors are called upon to utilize skilful counselling techniques. A thorough knowledge of all community resources and facilities by the nursing counsellors is most essential to this phase of the work. The most frequent factors encountered are those related to personal health and hygiene, family health problems, nutrition and budgeting, emotional disorders, and those associated with the severely handicapped. As an indication of the extent to which departments are utilizing the health services provided by this division, it is interesting each year to work out the ratio of employee-health-unit visits to the total number of persons supervised. This "Index of Participation", expressed as the average monthly number of employee-health-unit visits per 100 personnel supervised, was 61 for the past fiscal year compared to 68, 70 and 65 in each of the preceding three years. The apparent decrease in the participation is in reality a further expression of the influence of the introduction of the five-day week. There is every evidence that health units are working to full capacity. Increased participation with our present staff would inevitably lead to a poorer quality of service being provided.

Table 8 summarizes the activities conducted at the Health Centre. A total of 6,152 examinations, consultations, emergency treatments and immunization procedures were carried out during the fiscal year under review. All sections of the Health Centre have been fully utilized. Because of the lack of additional space only the most essential work can be undertaken. The slight reduction in the volume of work conducted at the Health Centre is once again an indication of the effect of the advent of the five-day week.

Our psychologist continues to operate in a separate office adjacent to Health Unit No. 8 in the Jackson Building. Notwithstanding, every effort has been made to maintain the closest possible relationship with the psychiatrist and medical officers at the Health Centre. Apart from the figures shown in Table 8 the psychologist carried out a total of 505 consultations over half of which were referred by our nursing counsellors and conducted at the health unit from which the referrals were made. This policy continues to have the advantage of bringing the nursing counsellor into the picture and of reducing to a minimum the employee-time-loss from work. The psychologist continues to be primarily concerned with human behaviour. His function of assisting civil servants in more intelligent self-direction, and in a better understanding of their own personalities, attitudes, aptitudes, and interests in their job relationships continues to be one of the most important aspects of our program.

The psychiatrist in addition to his role as clinical consultant, has devoted much of his time to the development of a broad preventive mental health program in the civil service. Through in-service training, instruction and guidance to nursing counsellors, he has given them a greater insight into the early detection and recognition of emotional disturbances enabling them to deal satisfactorily with minor disturbances before they become major problems. More serious cases are referred to the psychiatrist or community psychiatric agency. In the clinical field the psychiatrist has conducted 302 consultations, the majority being referred by medical officers at the Health Centre, departmental personnel officers and nursing counsellors.

During the year a medical officer of our Health Centre staff resumed his duties following a one-year period of educational leave devoted to post-graduate study in ophthalmology. As a result the division is now able to afford a broad service covering a wide range of eye problems. The majority of patients with ocular foreign bodies and minor injuries or inflammations can now be returned to work after emergency treatment in the Health Centre with a minimum of loss of time from their duties. Those with conditions requiring repeated or prolonged treatment are referred to an eye specialist of their own choice. The division is able also to carry out more precise investigation of employees whose symptoms are presumably due to eyestrain or refractive error. Refractions are conducted where indicated and the employee advised concerning the need for glasses or change in existing glasses. The division continues to screen applicants for employment in positions where special visual requirements are necessary. In addition to this preliminary pre-employment examination, periodic visual screening is carried out on employees engaged in work on apparatus requiring prolonged use of the eyes, notably the complex stereoscopes used in mapping work.

Table 9 reviews retirements from the service on medical grounds according to disability. Of the 185 separations occurring, 159 (85 per cent) occurred within the fifty to sixty-year age group. As in previous years, diseases of the circulatory system, the nervous system, and of the bones and organs of movement constituted the chief causes of disability necessitating retirement.

TABLE 7  
HEALTH UNIT STATISTICS—BY MONTHS  
FISCAL YEAR 1953-54

	Total	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Number of personnel under supervision.....	.....	21,407	21,454	21,596	21,778	21,555	21,776	21,714	21,892	21,854	21,790	22,062	22,113
Number of Health Units in operation.....	.....	17	17	17	17	17	18	18	18	18	18	18	18
Number of visits—													
Total.....	161,000	14,117	14,447	12,843	13,031	11,372	13,277	14,089	13,487	13,716	13,430	13,101	14,090
First visit.....	120,086	10,278	10,828	9,632	9,632	8,276	9,985	10,693	10,290	10,546	10,030	9,594	10,282
Repeat visit.....	40,914	3,839	3,619	3,191	3,399	3,096	3,292	3,396	3,197	3,170	3,400	3,507	3,808
Visits by sex—													
Total.....	161,000	14,117	14,447	12,843	13,031	11,372	13,277	14,089	13,487	13,716	13,430	13,101	14,090
Males.....	74,079	6,291	6,514	5,746	5,839	5,249	6,179	6,472	6,251	6,463	6,325	6,231	6,519
Females.....	86,921	7,826	7,933	7,097	7,192	6,123	7,098	7,617	7,236	7,253	7,105	6,870	7,571
Nature of visits—													
Total.....	161,000	14,117	14,447	12,843	13,031	11,372	13,277	14,089	13,487	13,716	13,430	13,101	14,090
Illness.....	63,141	5,693	5,289	4,873	5,222	4,615	5,232	5,589	5,089	5,181	5,233	5,301	5,824
Accident.....	14,414	1,116	1,357	1,298	1,351	1,095	1,160	1,033	1,138	1,154	1,144	1,195	1,373
Consultations.....	17,885	1,576	1,764	1,707	1,321	1,162	1,499	1,503	1,589	1,820	1,380	1,473	1,721
Return-to-work visits.....	68,560	5,732	6,037	4,905	5,137	4,500	5,386	5,904	5,701	6,161	5,673	5,132	5,172
Classification of first visits—													
Total.....	120,086	10,278	10,828	9,632	9,632	8,276	9,985	10,693	10,290	10,546	10,030	9,594	10,282
Respiratory.....	33,457	3,140	2,579	1,409	1,112	1,437	2,420	3,804	3,356	4,141	3,703	3,483	2,813
Digestive.....	18,584	1,504	1,664	1,725	2,201	1,742	1,733	1,366	1,420	1,444	1,228	1,104	1,393
Skin and cellular.....	7,729	610	837	837	886	608	634	599	517	507	610	540	633
Menstrual disorders.....	6,779	577	730	734	660	499	578	537	517	469	457	462	537
Emotional disorders.....	2,207	215	251	193	203	140	173	157	186	143	179	145	222
Contagious diseases.....	91	7	7	9	9	6	10	.....	.....	4	8	11	13
Accidents non-industrial.....	6,856	499	692	723	705	581	551	476	499	527	558	490	555
Industrial injuries.....	4,512	367	433	312	338	286	353	369	405	384	396	396	473
Ill-defined and all others.....	39,871	3,359	3,752	3,650	3,458	2,977	3,536	3,365	3,352	2,927	2,891	2,961	3,643
Disposal—													
Total.....	161,000	14,117	14,447	12,843	13,031	11,372	13,277	14,089	13,487	13,716	13,430	13,101	14,090
Sent home.....	3,938	389	335	236	284	282	389	354	347	350	322	350	300
Return to work.....	157,062	13,728	14,112	12,607	12,747	11,090	12,888	13,735	13,140	13,366	13,108	12,751	13,790
Referrals—													
Total.....	9,890	851	872	863	905	799	871	794	773	702	810	757	893
Referred to Health Centre.....	2,785	244	257	259	222	222	222	215	264	184	227	205	259
Referred to family physician.....	7,105	607	615	604	683	572	649	579	509	518	583	552	634

TABLE 8  
HEALTH CENTRE STATISTICS

FISCAL YEAR 1953-54

NUMBER OF VISITS		
Total		6,152
First visit		2,714
Repeat visit		3,438
VISITS BY SEX		
Total		6,152
Male		4,041
Female		2,111
PHYSICAL EXAMINATIONS		
Total		2,873
Pre-employment, permanency, etc.		844
Obligatory examination with immunization		382
Voluntary		890
Other		757
OTHER SERVICES		
Total		3,279
Accident industrial		32
Accident non-industrial		290
Immunization		1,204
Consultation, interview, etc.		1,753
DISPOSAL		
Total		6,152
Returned to work		6,069
Sent home		83
REFERRED TO FAMILY PHYSICIAN		90
TOTAL LABORATORY PROCEDURES		4,698
X-RAY		
Total		4,844
Chest		1,683
Chest (Photo-roentgen unit)		2,395
Other		766

TABLE 9  
RETIREMENTS FROM SERVICE ON MEDICAL GROUNDS—ACCORDING  
TO DISABILITY

FISCAL YEAR 1953-54

Total Male—147

Total Female—38

Total—185

CAUSE OF DISABILITY	AGE GROUPS					Total
	Under 40	40-44	45-49	50-54	55-59	
Infective and Parasitic	0	0	2	0	3	5
Neoplasms	2	1	0	4	8	15
Allergic, endocrine, metabolic, nutritional	0	0	0	3	7	10
Blood and blood forming	0	1	0	1	2	4
Mental psychoneurotic personality	4	2	3	9	15	33
Nervous systems and sense organs	0	1	2	3	6	12
Circulatory	0	1	1	12	45	59
Respiratory	0	1	0	0	7	8
Digestive	0	1	0	3	3	7
Genito-urinary	0	0	0	0	1	1
Skin and Cellular	0	0	0	0	1	1
Bones and organs of movement	3	0	1	2	16	22
Symptoms and ill-defined	0	0	0	2	2	4
Accidents and results of old injuries	0	0	0	1	3	4
Total	9	8	9	40	119	185



## Hospital Design

More than 650 hospital plans have been carefully reviewed and approved for a hospital construction grant since 1948. Included in these projects are more than 51,000 beds of all types, including 6,300 beds for nurses. The grants approved total more than \$60,000,000.00.

In reviewing these plans, particular attention is paid to the provision of sufficient space and facilities to ensure adequate care for patients and compliance with minimum standards prepared by this Division.

Besides checking plans for grants, the Division receives plans in their preliminary stage from Health Departments, hospitals, and architects, with requests for criticisms and proposals. The Division was originally set up to provide this service, but the time consumed by the grant program prohibits much expansion in this consultant field.

A detailed study of the facilities and requirements of the University of Alberta hospital was made. Sketch plans were produced for alterations and additions to Park Savard Hospital in Quebec, and hospital plans and hospitals for sick mariners studied.

The Chief of the Division acted as chairman for the health section on the committee of the revised National Building Code, and also as a member of the Council of the Royal Architectural Institute of Canada.

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## Narcotic Control

### General

Continued close liaison between licensed distributors and the Department again ensured adequate supplies of drugs coming under narcotic classification being available for the medical needs of the Canadian public during the year under review. This liaison coupled with close co-operation of the United Nations Narcotic Commission and the efficient efforts of the countries from whom we secure our narcotic supplies ensured that no narcotic problem in relation to medical requirements presented itself to the Canadian administration or public.

No significant increase was noted in our addict population during the year. While the problem of juvenile addiction was still present there is no reason to believe that the number of these addicts is on the increase. The usual effective enforcement efforts of the R.C.M. Police and other law enforcement bodies in association with the administrative work of the Department has resulted in such summary treatment of those found supplying narcotics to addicts as to make activities of this nature a hazardous and unprofitable effort. The steady increase in the number of convictions under the Opium and Narcotic Drug Act, contrasted with no concrete evidence of an increase in addiction, is proof of this.

As before, illicitly imported Heroin is the chief, almost the only, drug of addiction in Canada. Over 90 per cent of the cases involved this drug. Moreover, only a very limited amount of the drug legally imported was diverted into illicit channels during the calendar year 1953 which is ample evidence that the addict supply is entirely derived from material smuggled into the country.

Prices reported on the illicit market remained steady during the year which again indicates that the illegal flow from other countries was quite sufficient to supply the addict population.

## Legitimate Trade

With the co-operation of 151 licensed narcotic wholesalers, adequate narcotic medication was available to meet the medical needs of the Canadian public during the year. The Department issued to these wholesalers 163 licences to import narcotics from seven countries. Our chief sources of supply are the United States, Great Britain, and France. Similarly, 55 licences to export were issued, the chief countries of export being Bermuda and British Guiana.

Narcotic wholesalers continued to submit to the Department monthly reports of sales of narcotic drugs and preparations containing narcotic drugs. This information was consolidated on the records of purchases kept by the staff of the Department. The fact that there are approximately 34,000 such individual records covering authorized purchasers, many of whom secure large numbers of individual orders, will give some idea of the volume of work involved. However, these records supply trained staff with a large volume of information in respect to the purchase requirements of the person or organization involved and provide a basis of enquiry where abnormalities occur. Similarly, other staff check sales reports submitted by retail druggists and again, from a knowledge gained of addicts, as well as the requirements of professional people, enquiries are made into unusual situations and professional persons advised when they are being victimized by addicts.

Moreover, three pharmacist auditors checked the records and security measures of 139 narcotic wholesalers and 796 hospitals, and in addition conducted 36 special investigations during the year.

Details of estimated consumption and volume of imports of narcotics may be reviewed and compared by means of table 11, page 66, and table 12, page 67.

## Crime and Convictions

During the judicial year ending September 30, 1953, there were 402 individuals convicted under the Opium and Narcotic Drug Act. Of these, 359 were for illegal possession, 39 for illegal selling or offering for sale, 2 were for transporting without a licence, 1 for obtaining drugs from more than one physician, and 1 for a professional person violating the provisions of the Act. Of the cases, 368 involved the drug Heroin, 15 Morphine, 8 Marihuana, 3 Poppy Heads, 3 Demerol, 2 Methadone, 1 Codeine, 1 Opium, and 1 Dromoran.

With respect to these convictions, penalties awarded by the Courts were as follows:

Fine only .....	2
Under 6 months .....	1
Six months and less than one year .....	166
One year and less than two years .....	90
Two years and less than three years .....	76
Three years and less than four years .....	30
Four years and less than five years .....	9
Five years and less than six years .....	24
Six years and less than seven years .....	2
Seven years .....	2

Moreover, one Spaniard, one Italian and one Egyptian were involved in these cases, the rest being of British, American and Canadian nationality.

Here follows a brief review of typical cases:

A 5 year penitentiary sentence and a \$500.00 fine were awarded an individual in Vancouver who came to the attention of the R.C.M. Police Officers as a peddler.

Careful checking on this individual finally led the Police to a commercial area in that city and the man concerned was seen to drive up in a taxi, leave it for a short time during which he was observed to feel around the base of a telephone pole. On his return to the taxi he was accosted and found in possession of 100 capsules of Heroin. His arrest and conviction followed.

Sentences totalling a possible 28 years were awarded to one of two brothers who were most active in the illicit traffic in Vancouver during 1950.

Their activities were of such magnitude that it was felt advisable to secure the services of an American Narcotic Agent to work undercover; the reason being that there was no danger of the American Agent being identified by either of the brothers whose acquaintance with underworld characters in Western Canada was very wide.

Space does not permit relating the vast amount of detail involved in the making of a purchase. However, this was effected and the money paid was treated with fluorescent powder which was an important factor in the later Court proceedings. After a preliminary hearing the brothers were released on bail of \$20,000.00 each. Shortly after they absconded and it was not until late in 1953 that the one concerned in this report was arrested in New York. Convictions are summarized in Table 10 on page 65.

### **Retail Control**

Over 12,000 individual sales reports were received from approximately 4,500 retail drug stores in Canada. Three separate reports, covering 4 months each, gave us complete returns from this source. These reports continued to receive close scrutiny, particularly with regard to the new synthetic narcotic drugs. The usual number of cases of addiction on the part of professional personnel were discovered and appropriate action taken. The close check maintained continues to be of considerable value in preventing addiction developing through the injudicious use of narcotics.

Again the Division enjoyed the full measure of co-operation from the Registrars and other members of the various Provincial Pharmaceutical and Medical Associations in Canada.

### **International Co-operation**

Every effort was again made by Canadian Narcotic Authorities to observe our International obligations with regard to the movement and internal control of narcotics. Fifty reports of seizures in the illicit traffic were submitted and all statistical information required was forwarded.

TABLE 10

CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT FOR THE JUDICIAL YEAR ENDED SEPTEMBER 30, 1953

Province	NATURE OF OFFENCE					DRUGS INVOLVED										
	Possession of Drugs	Selling, Offering, Giving Away and Delivery	Transporting	Section 10	Professional cases under Sect. 6 of the Act	Totals	Opium	Poppy Heads	Methadone	Dromoran	Heroin	Maritjuana	Demerol	Morphine	Codeine	Totals
Newfoundland																
Prince Edward Island																
Nova Scotia	1					1					1					1
New Brunswick																
Quebec	17	1			1	19					12	5	1	1		19
Ontario	91	7	1			99			1	1	84	3	2	8		99
Manitoba	7					7					7					7
Saskatchewan	3			1		4	1				1			2		4
Alberta	6		1			7					4			2	1	7
British Columbia	234	31				265		3	1		259			2		265
Totals	359	39	2	1	1	402	1	3	2	1	368	8	3	15	1	402



TABLE 11  
IMPORTS OF MAIN NARCOTICS  
FOR PERIOD 1944-53 INCLUSIVE

UNIT OF WEIGHT—OUNCE, PURE DRUG

Year	Raw Opium	Medicinal Opium and Prepara- tions	Morphine	Heroin	Cocaine	Ethyl- morphine	Dilaudide	Papave- rine	Codeine	Phol- codeine	Pethidine	Dro- moran	Nisentil	Amidone
1944.....	1,056	416	5,229	468	1,233	2,131	10	354	26,149	.....	1,121	.....	.....	.....
1945.....	4,000	3,842	4,791	762	361	1,195	19	571	23,122	.....	2,085	.....	.....	.....
1946.....	4,000	4,614	1,181	1,020	1,797	664	23	805	35,885	.....	5,539	.....	.....	.....
1947.....	3,360	6,453	1,046	906	2,169	745	18	961	36,915	.....	9,018	.....	.....	.....
1948.....	3,200	3,040	3,013	1,019	993	919	26	2,809	34,058	.....	5,175	.....	.....	892
1949.....	1,720	3,202	3,168	906	666	1,433	11	943	37,751	.....	4,106	.....	.....	1,068
1950.....	1,609	4,000	2,337	748	1,344	1,207	21	1,292	93,269	.....	5,480	.....	.....	92
1951.....	1,928	4,423	3,076	1,014	1,053	1,068	17	1,672	37,274	.....	9,189	.....	.....	73
1952.....	53	5,200	1,173	991	1,122	1,403	15	1,518	58,098	.....	12,343	.....	.....	329
1953.....	1,744	3,768	2,760	819	1,750	1,108	13	1,540	40,682	21	11,409 <sup>1</sup>	28	93	208 <sup>1</sup>

<sup>1</sup> Pure Drug figure utilized in 1953.

TABLE 12  
ESTIMATED CONSUMPTION OF MAIN NARCOTICS  
FOR THE PERIOD 1944-53 INCLUSIVE

UNIT OF WEIGHT—OUNCE, PURE DRUG

Year	Raw Opium	Medicinal Opium and Prepara- tions	Morphine	Heroin	Cocaine	Ethyl- morphine	Dilaudide	Papave- rine	Codeine	Pethidine	Phol- codone	Metha- done and Prepara- tions	Levor- phan	Nisentil
1944.....	3,810	7,090	3,633	740	1,480	1,458	14	280	22,241	1,042				
1945.....	3,175	6,314	3,351	670	1,305	691	12	381	22,809	1,102				
1946.....	3,422	4,797	3,492	1,058	1,552	1,110	22	455	36,191	2,045				
1947.....	3,932	4,734	3,090	881	1,390	1,107	15	715	36,484	5,894				
1948.....	2,090	6,026	3,074	995	1,407	1,032	22	1,416	39,672	5,642				
1949.....	2,010	3,606	2,718	898	1,197	949	16	1,359	44,443	6,852		385		
1950.....	2,330	5,375	2,613	1,000	1,408	1,103	16	1,632	45,582	7,270		397		
1951.....	2,020	5,693	2,525	928	1,270	1,561	15	1,362	56,384	8,916		454		
1952.....	2,045	5,925	2,539	776	1,340	775	20	2,046	63,345	10,087		388	29	
1953.....	762	5,036	2,692	828	1,412	1,582	21	1,691	53,199	10,512*	8	312*	34*	29

\* First use of Pure Drug figure as authorized on U.N.N.C.  
Annual Statistical Forms for 1953.

## Quarantine, Immigration Medical and Sick Mariners Services

Through these Services the Department administers a number of Acts and statutory Regulations dealing with the health aspects of international travel, of immigration, the treatment of sick mariners, the diagnosis and treatment of leprosy and the certification of bona fide public hospitals for sales tax exemption. Other responsibilities include the provision of medical advice to the Proprietary or Patent Medicine Division, to the Marine Services of the Department of Transport and to the Government Employees Compensation and Special Services Branches of the Department of Labour.

### Quarantine Service

The Quarantine Service is responsible for administering laws and regulations in connection with the operation of Canada's share of international measures for the control of major quarantinable diseases such as smallpox, plague, cholera, yellow fever, typhus fever and louse-borne relapsing fever. Co-operation between countries of the free world has resulted in the drafting of standard quarantine procedures. These are known as the International Sanitary Regulations and Canada's quarantine procedures have been adapted to the international standard. Certain difficulties have been encountered and various countries, including Canada, have made recommendations to the World Health Organization in the hope that certain minor amendments may be made to these Regulations.

The most important quarantinable disease as far as Canada is concerned is smallpox. Measures designed to prevent its entry rely on vaccination. All persons entering Canada from all countries except the United States, Alaska, the Hawaiian Islands, Panama Canal Zone, Bermuda, the Bahamas, Cuba, Jamaica, the Virgin Islands, St. Pierre, Miquelon, Iceland and Greenland are required to produce evidence of having been vaccinated within the three year period immediately preceding entry to Canada. Quarantine officials stationed at the major ports of entry inspect passengers and crew members arriving by sea or air. Persons coming to Canada through the United States are required by United States quarantine officials to conform to United States vaccination requirements which are essentially similar to those of Canada.

As in previous years vessels and aircraft coming from the Far East were given special attention and persons on board were individually inspected for evidence of illness which might indicate the early symptoms of an infectious disease. In addition to concern over arrivals from areas traditionally regarded as continuously infected, some special care was necessary as a result of outbreaks of smallpox recurring periodically in the British Isles and Europe. From time to time suspected cases of smallpox present problems in diagnosis and in such instances the Quarantine Service obtains assistance from the Department's Laboratory of Hygiene in the form of laboratory diagnostic services.

By international agreement, co-ordinated by the World Health Organization, Canada participates in the effective operation of measures designed to keep foreign-going vessels from carrying plague. Plague is transmitted chiefly by a species of rat flea and a reservoir of infection may exist in rats. Measures against plague are directed chiefly to maintaining all foreign trade vessels as

free from rats as possible. To this end vessels are inspected every six months and in addition on each arrival from a plague infected port. Rat infested vessels are fumigated. The construction of rat-proof vessels is encouraged and this has done much to reduce port to port migration of rats.

For Canadians who plan to journey through the yellow fever-infected areas of South America and Central Africa the Quarantine Service has established sixteen centres strategically located from coast to coast where immunization against yellow fever may be obtained and an International Certificate of Inoculation and Vaccination issued free of charge. For the convenience of Service personnel in Europe a new centre was established at No. 1 Air Division in co-operation with the R.C.A.F. Due to the difficulty of handling and storing yellow fever vaccine this product is not available for administration apart from the established centres.

The care presently being exercised in handling of food and more especially the chlorination of water supplies for ships and aircraft have done much to prevent outbreaks of cholera on international conveyances. No cases arrived at Canadian ports although the disease was prevalent in many of the countries from which vessels and aircraft had come.

Effective lice-killing agents, such as DDT, have proved a powerful weapon in preventing the transmission of typhus and relapsing fever. Facilities are maintained for the delousing of infested individuals, their effects and ship's equipment.

Fully organized quarantine stations are operated at Halifax, N.S., Saint John, N.B., Quebec, P.Q., and William Head, B.C. The Quebec station has five substations located at Rimouski, Port Alfred, Sorel, Three Rivers and Montreal. The William Head station has three substations at Vancouver, Victoria and Esquimalt. Quarantine inspections of aircraft are carried out at Gander, Nfld., Sydney, N.S., Moncton, N.B., Dorval, P.Q., Malton, Ont., Edmonton, Alta., and Vancouver airports.

During the year 3,400 vessels, having on board 492,406 persons, of which 223,127 were crew members, 269,149 passengers and 130 distressed seamen and others, were inspected.

Local Customs Officers, in their capacity as Quarantine Officers at unorganized ports, reported the entry of an additional 622 vessels.

A total of 987 vessels were inspected for vermin and rodents. Of these 679 came from plague infected ports. As a result of the inspections 358 vessels were granted certificates exempting from fumigation for a period of six months. 416 had their existing certificates endorsed. 66 required fumigation which resulted in the recovery of a total of 154 rats and 31 mice. The balance of 147 vessels were inspected and found to contain evidence of rat infestation but for various reasons fumigation could not be undertaken and these vessels either had their certificates extended for one month or were remanded to some other port for further necessary action.

A total of 11,225 aircraft, having on board 541,977 persons, were inspected during the year.

Inoculations against yellow fever were administered to 2,419 persons. Approximately 85,000 International Certificates of Inoculation and Vaccination were issued.

Statistical data on Quarantine activities are presented in the following Tables 13 and 14.



TABLE 13  
(Quarantine Service)  
SHIPS BOARDED BY QUARANTINE OFFICERS, 1953-54

The following table indicates the number of ships boarded during the fiscal year 1953-54, also total personnel on board, divided into their respective groups

Station	Vessels Inspected	PERSONNEL INSPECTED					
		Passengers				Crews	Cattlemen Stowaways, Distressed Seamen, etc.
		First Class	Cabin and Second Class	Tourist Third	Third Class and Steerage		
Halifax, N.S.....	654	82,447	2,455	57,925	.....	77,697	6
Saint John, N.B.....	297	594	124	5,557	790	15,668	21
Quebec, P.Q.....	1,736	69,954	.....	39,877	3,798	101,375	79
William Head, B.C.....	713	5,021	.....	607	.....	28,367	24
Totals.....	3,400	158,016	2,759	103,966	4,588	223,127	130
							492,406

TABLE 14  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1953-54

Port	Vessels inspected, and fumigated and deratization certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total Vessels Inspected	Rodents Recovered	
						Rats	Mice
Halifax, N.S.	5	45	89	1	140	0	0
Sydney, N.S.		14			14		
Saint John, N.B.	3	24	9	4	40	1	0
Quebec, P.Q.	1	12	3		16	0	0
Port Alfred, P.Q.		29			29		
Three Rivers, P.Q.		8			8		
Sorel, P.Q.		2	1		3		
Montreal, P.Q.	5	84	9	5	103	42	31
Vancouver, B.C.	49	106	34	264	453	111	0
Victoria, B.C.	3	34	2	118	157	0	0
Port Alberni, B.C.				24	24		
Totals	66	358	147	416	987	154	31

## Leprosy

Canada operates two Leprosaria. Patients from Eastern Canada are hospitalized at Tracadie, N.B., while those from Western Canada are treated at Bentinck Island, B.C.

Six patients were treated at the Tracadie Leprosarium throughout the year, in a modern wing of the Hotel-Dieu de St. Joseph Hospital so designed that the most modern treatment could be provided with patients having the maximum amount of comfort and recreation. A total of twelve beds are available, six for males and six for females. Recreational facilities include a woodworking shop and bathing beach on the Gulf of St. Lawrence.

Five patients were treated at Bentinck Island during the year. Four were of Chinese origin and one was a merchant seaman from India. This institution is built on the cottage system and patients have the freedom of the Island. Those who are able to work are employed at routine chores. Some have gardens and raise chickens, others enjoy the excellent fishing in the vicinity of the Island.

The staff of the Island consists of a graduate nurse assisted by a caretaker. Medical care is under the direction of the Quarantine Medical Officer in charge at the nearby William Head quarantine station.

Four new cases of leprosy were diagnosed during the year; one was a merchant seaman, a native of India, who was treated at Bentinck Island with good results and sent home to India. Two were Chinese-born residents of British Columbia. One was a native-born Canadian residing in Saskatchewan whose admission to hospital at Bentinck Island was pending at the end of the year. Six former leper patients whose disease has become arrested and non-infectious have been living at home since discharge from hospital and are carrying on treatment under medical supervision to prevent a recurrence.

As the statistics following indicate, leprosy is no longer an important public health problem in Canada, although in the 19th century there were over one hundred cases in a certain localized area. Children are much more susceptible to this disease than adults so that in controlling the disease it is important to keep children from intimate contact with infectious cases. The incubation period of leprosy is often prolonged and may vary from six months to twenty years from the time of exposure to the onset of symptoms.

Full advantage is being taken of modern drugs which are doing much to brighten the prognosis although they have failed to benefit certain difficult cases. The drugs are toxic and administration must be carefully controlled in hospital during early and active treatment.

TABLE 15  
LEPROSARIA ANNUAL CENSUS  
1952-53

	Tracadie	Bentinck Island
Remaining from last year.....	6	2
Admitted during the year.....	0	3
Died during the year.....	0	1
Discharged during the year.....	0	2
Remaining in hospital.....	6	2
<i>Outpatients</i>		
Active—admission pending.....	0	1
Arrested—cases discharged from hospital, continuing treatment at home under medical supervision.....	2	4
Total known cases in Canada.....	8	7
	15	

## Immigration Medical Service

The Immigration Medical Service is responsible for the examination of migrants in Canada and abroad, for the observation and treatment of migrants, visitors and certain other classes at Canadian ports and for rendering various other professional services to the Department of Citizenship and Immigration. The majority of immigrants undergo a complete medical examination overseas. This includes an X-ray of the chest and any additional consultation, radiological, or laboratory investigation that may be required. Final medical clearance is granted only after arrival in Canada.

The movement of migrants to Canada from overseas continued in an increasing flow during the early months of the year, reaching a peak in May with volume well maintained in June and July following which there was a drop in numbers with a secondary peak in October. During the winter the flow was restricted temporarily until the approach of spring when it was permitted to gather momentum again.

Examinations by Canadian Medical Officers overseas and in Canada are free of charge. Persons reporting for examination to offices at London, Liverpool, Glasgow, Paris, Belfast and Dublin receive their chest X-ray free. As a result of the careful medical screening migrants receive the incidence of tuberculosis among recent arrivals has been greatly reduced so that the morbidity rate for immigrants is now approximately the same as for the community in which the individual settles.

Examinations are conducted throughout Europe and the British Isles by Canadian Medical Officers at offices located at London, Liverpool, Glasgow, Belfast, Paris, Brussels, The Hague, Copenhagen, Karlsruhe, Munich, Hanover, Hamburg, Bremen, Berlin, Hanau, Linz, Rome and Athens, offices at Berlin, Hamburg and Hanau having been opened during the year. In certain other centres examinations are done by teams of one or more Canadian Medical Officers sent out from the various offices, or where there is insufficient work to warrant the sending of a Canadian Medical Officer the examinations are done by local doctors appointed and supervised by Canadian Medical Officers. Local doctors were employed in the British Isles, Eire, Norway, Sweden, Finland, Switzerland and Portugal. Canadian Medical Officers were withdrawn from Sweden and Finland during the year because of a reduction in the volume of work. During the course of the year teams of Canadian Medical Officers were sent from Paris to Bordeaux, Quimper and the Madeira Islands; from Rome to Naples, Genoa, and Malta; and from Karlsruhe to Frankfurt and other places in Germany.

At the beginning of the fiscal year there were forty-two Canadian Medical Officers examining immigrants overseas. By the end of the year, the total number had increased to fifty. To meet peak loads and emergency situations it was necessary on occasion for short periods to employ the services of Canadian doctors who were travelling in Europe or doing post-graduate work there.

In Asia immigrants are examined medically by local physicians appointed by Canada at Hong Kong, New Delhi, Karachi, Bombay, Madras and Calcutta.

During the year arrangements were made for the medical pre-screening of immigrants in countries where there are no regularly appointed medical examiners. The examinations are made by local physicians of high repute who are selected by the diplomatic representative of Canada at places where prospective migrants may apply for visas. Such medically pre-screened persons are re-examined on arrival in Canada.

On arrival in Canada all persons except returning Canadians are inspected or examined and, where necessary, are held for observation, diagnosis, or medical and surgical treatment, as indicated. Persons who are in good health receive final medical clearance as soon as possible after arrival. However,



this is deferred in cases of injury or illness until treatment is concluded. Persons found to be suffering from certain chronic or permanent conditions are prohibited from entering Canada. Such conditions include mental deficiency, mental illness, previous insanity, epilepsy, tuberculosis, trachoma, other infectious diseases not curable within a reasonably short time, and serious physical handicaps likely to prevent a person from earning a living.

Medical facilities exist at the following seaports and airports: St. John's, Gander Airport and Stephenville, Nfld.; Sydney, Reserve Airport, and Halifax, N.S.; Moncton Airport and Saint John, N.B.; Quebec, Montreal and Dorval Airport, P.Q.; Ottawa, Toronto and Malton Airport, Ont.; Edmonton Airport, Alta.; Vancouver, Sea Island Airport and Victoria, B.C.

Immigration hospitals are operated at Halifax, N.S., Saint John, N.B.; and Quebec, P.Q. These hospitals are well equipped and provide up-to-date facilities for diagnosis and treatment, and for the comfort of the patients.

The Immigration Medical Service also provides emergency surgical, medical and dental treatment to immigrants who are injured or who become ill after landing in Canada while en route to destination or after arrival at destination pending placement in employment where the individual is without sufficient funds and lacks the necessary assets to cover the expenses. Treatment is also provided where an immigrant is in transit on transportation supplied by the Immigration Branch of the Department of Citizenship and Immigration, or is receiving food and shelter at the expenses of that Department. Diagnostic, medical and surgical treatment services are also provided to persons accommodated or detained in buildings operated by the Department of Citizenship and Immigration. Pertinent statistics are given in Tables 16, 17 and 18, pages 75, 76 and 77.

### **Sick Mariners Service**

The Sick Mariners Service operates under the authority of Part V of the Canada Shipping Act and has existed since Confederation, being one of the oldest prepaid medical schemes in existence. The scheme was originally devised to prevent sick aid injured seamen from becoming public charges and unable to obtain treatment after being left ashore in Canadian ports after their vessels had sailed.

The Service provides free medical, surgical and hospital care to crew members employed on vessels paying Sick Mariners Dues at ports in the provinces of Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec, British Columbia and those parts of Ontario and Manitoba which border on Hudson and James Bays. Sick Mariners Dues are collected on a compulsory basis from all vessels arriving from foreign ports and from all vessels which have made at least one voyage during the calendar year in the interprovincial coastal trade, and on a voluntary basis from vessels of Canadian registry employed exclusively in fishing, provided the first payment is made prior to the first fishing voyage in the calendar year. Sick Mariners Dues are levied by local Collectors of Customs when vessels arrive at ports in the provinces mentioned above. The amount of Dues is fixed by statute at two cents per net registered ton and is payable each time a vessel arrives but not more than three times in a calendar year. The minimum payment is fixed at two dollars.

The Act provides complete medical and surgical care for all conditions except permanent insanity. It includes free hospitalization, free drugs and, where indicated, the services of consultants and special nurses. No sick mariner is entitled to free treatment for a period longer than one year.

The conditions under which free treatment is authorized are kept as simple as possible. The sick seaman applies to his captain who completes a concise form indicating the particulars about the crew member and the vessel. The seaman then takes the application to the local Collector of Customs who verifies the facts and endorses the application, referring the patient to the port physician. In case of accident or emergency the seaman may be sent directly to the doctor or hospital for sick mariners.

Sick Mariners Clinics are operated at Sydney, Halifax, Saint John, N.B., Quebec, Montreal and Vancouver. The Department is planning to open a new Sick Mariners Clinic at Victoria, B.C., when a suitable building can be obtained.

At Victoria, Port Alberni and Powell River in British Columbia; Port Alfred and Gaspe in Quebec; Lunenburg, Windsor, Liverpool, Pictou, Digby, Lockeport and Yarmouth in Nova Scotia; and at Shippegan and Tracadie in New Brunswick, treatment is provided by port physicians employed on a part-time salary basis. In other ports and in the smaller outports there are port physicians attending sick mariners on a fee for service basis.

A marine hospital is operated at Sydney, N.S. Besides sick mariners this hospital treats Indians who are the responsibility of the Indian Health Services of the Department and also admits Royal Canadian Mounted Police, immigrants and certain other patients who are the responsibility of other Government departments.

Details of statistics, revenue, expenditure and deficits are found in Table 19 on page 78.

TABLE 16  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES  
FISCAL YEAR 1953-54

<b>CANADA:</b>	
Immigrants medically inspected on arrival at ocean and air ports.....	174,154
Non-immigrants medically inspected on arrival at ocean and air ports.....	27,313
Certified as "prohibited" under Immigration Act, Section 3, (a) and (b).....	73
Certified as physically defective, Section 3 (c).....	541
<b>OVERSEAS—(United Kingdom, Continent of Europe and Orient)</b>	
Prospective emigrants medically examined.....	225,019
Certified as "prohibited" under Immigration Act, Section 3, (a), (b) and (i).....	3,608
Certified as physically defective, Section 3 (c).....	19,113
Re-examinations.....	40,167
<i>United Kingdom:</i>	
Prospective emigrants medically examined.....	75,950
<i>Continent of Europe:</i>	
Prospective emigrants medically examined.....	145,858
<i>Orient:</i>	
Prospective emigrants medically examined.....	3,211

#### DETAILS OF EXAMINATIONS

##### EXAMINATIONS OVERSEAS:

	Examinations	Re-examinations
By Canadian Medical Officers in British Isles.....	63,236	10,003
By Roster Doctors in British Isles.....	12,714	1,300
By Canadian Medical Officers on the Continent.....	140,707	28,161
By Roster Doctors on the Continent.....	5,151	679
By Roster Doctors in the Orient.....	3,211	24
Total, 1953-54.....	225,019	40,167
Total, 1952-53.....	163,757	37,895

(Table 16 continued)  
DETAILS OF EXAMINATIONS

## EXAMINATIONS OVERSEAS:

	Examinations	Re-examinations
By Canadian Medical Officers in Athens . . . . .	3,253	222
" " " " in Azores . . . . .	1,593	0
" " " " in Belfast . . . . .	6,859	1,568
" " " " in Berlin . . . . .	963	281
" " " " in Bremen . . . . .	4,241	390
" " " " in Brussels . . . . .	3,656	1,543
" " " " in Copenhagen . . . . .	1,724	252
" " " " in Finland . . . . .	1,003	205
" " " " in Glasgow . . . . .	14,173	2,513
" " " " in Hamburg . . . . .	810	54
" " " " in Hanover . . . . .	16,007	2,078
" " " " in Karlsruhe . . . . .	26,165	2,947
" " " " in Linz . . . . .	12,039	1,654
" " " " in Liverpool . . . . .	13,524	2,533
" " " " in London . . . . .	28,680	3,389
" " " " in Malta . . . . .	662	4
" " " " in Munich . . . . .	915	201
" " " " in Paris . . . . .	8,034	950
" " " " in Rome . . . . .	34,176	13,824
" " " " in Sweden . . . . .	1,052	179
" " " " in The Hague . . . . .	24,414	3,359
By Roster Doctors in British Isles . . . . .	12,714	1,300
" " " " on the Continent . . . . .	5,151	679
" " " " in Pakistan . . . . .	98	
" " " " in India . . . . .	194	24
" " " " in China . . . . .	2,919	
Total . . . . .	225,019	40,167

## EXAMINATIONS IN CANADA:

	Immigrants	Non-Immigrants
Gander, Nfld. . . . .	6,551	4,421
St. John's, Nfld. . . . .	748	300
Goose Bay, Nfld. . . . .	15	33
Halifax, N.S. . . . .	55,976	1,567
Sydney, N.S. . . . .	49	124
Saint John, N.B. . . . .	4,946	315
Montreal, P.Q. . . . .	2,268	470
Quebec, P.Q. . . . .	66,456	8,130
Dorval, P.Q. . . . .	6,577	5,979
Malton Airport, Ont. . . . .	2,354	1,717
Toronto, Ont. . . . .	1,193	9
Fort Erie, Ont. . . . .	8,046	629
Niagara Falls, Ont. . . . .	5,524	774
Vancouver and Airport, B.C. . . . .	2,931	904
Victoria, B.C. . . . .	238	185
Others . . . . .	10,282	1,756
Totals . . . . .	174,154	27,313

TABLE 17  
(Immigration Medical Service)  
CASES PRESCREENED AT HEAD OFFICE  
FISCAL YEAR 1953-54

Chest films interpreted . . . . .	10,232
Medicolegal problems considered . . . . .	416
Medical cases reviewed . . . . .	10,938
Total cases dealt with . . . . .	11,354

TABLE 18  
(Immigration Medical Service)  
CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT  
FISCAL YEAR 1953-54

	CANADA Ocean and Air Ports	BRITISH ISLES		CONTINENT OF EUROPE		Total
		Examined by Can. M.O's	Examined by Roster Drs.	Examined by Can. M.O's	Examined by Roster Drs.	
Certified under:						
SS (a) Mental Diseases and Defects.....	18	99	14	287	8	426
SS (b) Loathsome and Contagious Diseases..	55	683	162	2,289	58	3,247
SS (c) Physical Defects.....	541	4,583	1,361	12,768	401	19,654
SS (i) Chronic Alcoholism.....	.....	4	.....	3	1	8
Total.....	614	5,369	1,537	15,347	468	23,335



TABLE 19

(Sick Mariners Service)

REVENUE, EXPENDITURE AND DEFICIT CLASSIFIED ACCORDING TO  
TYPE OF VESSEL

CALENDAR YEAR 1953

Classification of Vessel	Revenue	Expenditure	Deficit	Deficit Expressed as Percentage of Revenue
	\$ cts.	\$ cts.	\$ cts.	%
Foreign-going.....	300,525 12	408,956 12	108,431 00	36
Coasting.....	3,448 84	27,541 94	24,093 10	698
Fishing.....	10,388 46	268,464 39	258,075 93	2484
Government.....	1,863 73	87,355 24	85,491 51	4587
Additional expenditure not classified as to type of vessel.....	.....	556 42	556 42	.....
Totals.....	316,226 15	792,874 11	476,647 96	150

## RESEARCH DEVELOPMENT

### Child and Maternal Health

During the past year the Child and Maternal Health Division has undergone changes in personnel, and some changes in program which may have a considerable impact upon its future activities. The personnel changes were the retirement of the Chief of the Division, Dr. Ernest Couture, a few months prior to the year under review, and the resignation during the year of the nursing consultant, Miss Ruby I. Tinkiss. Dr. Couture's duties were taken over by Dr. Jean F. Webb, formerly the pediatric consultant. Miss Tinkiss has not yet been replaced. A development of significance was the provision in the National Health Program of a grant for Child and Maternal Health.

The Division continues to have as its overall objective the promotion of optimum health for the mothers and children of Canada. It functions in an advisory way in several areas to fulfill this objective.

1. Assistance is given on request to the Directorate of Health Insurance Studies in the review and assessment of health grant projects for services to mothers and children.

2. Assistance and advice is made available to provincial health departments in the assessment of present facilities and services and in planning for extension of services in this field.

3. Educational materials for the use of both lay and professional individuals and groups are prepared.

4. Research is conducted, and research at provincial and local levels stimulated on health problems peculiar to mothers and children.

### Health Grants

The prospect for improvement and extension of maternal and child health services in Canada has been very much enhanced by the provision of a grant specifically ear-marked for extension of services in this area, and the Division has been in consultation frequently with the Directorate of Health Insurance Studies regarding the utilization of this grant. In the first year 22 per cent of the funds available to the provinces was expended. It is recognized that funds cannot be utilized to the full in the planning stages of any developing program, and this is considered a substantial start. Projects supported include services for the care of mothers and young children, training for both public health and hospital nurses in maternal and child care, the purchase of special equipment, such as incubators and formula sterilizers, and research including a study of the causes of stillbirths and neonatal deaths. The Division was consulted also regarding projects for the utilization of the Crippled Children's Grant, the General Public Health Grant, the Professional Training Grant, and the Public Health Research Grant.

The only sound basis for a consultant and advisory service to provincial and local health departments in the area of maternal and child health is a broad familiarity with present facilities and services for these special groups. To acquire this familiarity with the services of not only official and voluntary health agencies but also hospitals and practising physicians, a considerable amount of time was spent by the acting chief of the Division visiting provincial and large municipal health departments. A particular effort was made to

contact professors of obstetrics and pediatrics at medical schools and also heads of graduate schools of nursing. All provinces but one and most medical schools were visited. Maternity, newborn and pediatric services of over twenty-five hospitals were visited. These included hospitals for the exclusive care of children in Halifax, Montreal, Toronto, London, Winnipeg and Vancouver. The information obtained during these visits was invaluable, not only in highlighting areas for development of a consultant and advisory program to the provinces, but also as a basis for assessment and evaluation of projects from the provinces for utilization of health grants. A report was prepared for departmental use which incorporated the general findings of those visits and suggested outstanding areas of need in present health services for these special groups.

The preparation of educational materials continued to be a major interest of the Division though no new materials were prepared during the year. The revised "Canadian Mother and Child" was released for distribution after Treasury Board policy regarding the sale of the publication had been laid down. The new edition elicited very favourable comment. The Nursing Manual on Premature Care reached the printers' hands. Technical advice was given to Information Services Division on the preparation of pamphlets on cerebral palsy and immunization which have already been made available to the provinces.

The research data on Staphylococcal Infection of Newborn Infants are being compiled, and one article, "Newborn Infections and Breast Abscesses of Staphylococcal Origin" has already been published in the Canadian Medical Association Journal.

Liaison has been maintained with professional societies, such as the Canadian Pediatric Society and the Canadian Public Health Association. A paper, "Observations on Maternal and Child Health in Canada", was delivered at the annual meeting of the latter in Toronto.

## Indices of Progress

Reductions in maternal and infant mortality rates are widely recognized as valuable reflections of general progress in the field of maternal and child care. The salvage of maternal and infant lives is the first objective in all maternal and child health programs, not an end in itself.

## Maternal Mortality

In 1952 though 374 women died as a result of pregnancy the maternal mortality rate reached a new low of 0.9 per 1000 live births. There was considerable variation in rates among provinces from a low of 0.5 to a high of 2.0. The causes of maternal deaths were as follows:—

	Number	Percent of total deaths
Toxaemia .....	115	30.7
Hemorrhage .....	77	20.6
Sepsis .....	54	14.4
Prolonged, difficult labour .....	40	10.7
Other causes .....	88	23.5
Total .....	374	100.0

A high proportion of these deaths could have been avoided by the practice of good maternity care. There are two necessary steps in the solution of this problem. One is to improve facilities for maternity care, especially in rural areas, and the other is to ensure that the mothers requiring care avail themselves of it. This requires the combined efforts of physicians, hospitals and public health workers.

### Infant Mortality

In 1952 there were 402,527 live births in Canada and 15,303 infant deaths; of these, 9,131 deaths occurred in the first month of life. The rate remained the same as for 1951—38 infant deaths per 1,000 live births. In addition, 7,260 infants were stillborn, a rate of 18 per 1,000 live births. The causes of infant deaths are as follows:—

	<i>Number</i>	<i>% of total infant deaths</i>
Respiratory infections .....	2,505	16.4
Immaturity .....	2,164	14.1
Congenital malformations .....	2,226	14.5
Injury at birth .....	1,532	10.0
Asphyxia—atelectasis .....	1,314	8.6
Gastrointestinal infections .....	1,105	7.2
Other infections .....	744	4.9
Accidents .....	425	2.8
Ill—defined diseases and unknown causes .....	1,400	9.2
Other causes .....	1,888	12.3
Total .....	15,303	100.0

Respiratory infection remains the leading single cause of death in infancy, while other environmental causes—gastrointestinal infections, other infections and accidents—contribute materially to the total. However, almost 50 per cent of deaths in the first year of life are due to conditions operative in the prenatal and neonatal period. This is further demonstrated by the fact that 25 per cent of infant deaths occur in the first day of life, and 50 per cent in the first week. Obviously the solution of this problem lies in the fields of maternity care as well as newborn care. Since over 80 per cent of births now occur in hospitals, it is dependent to a considerable degree on an improvement in the hospital care given in the first days, indeed hours, of infants' lives. Close co-operation among obstetricians, pediatricians, and hospital and public health authorities is needed to bring about this necessary improvement.

### Dental Health

The Dental Health Division continues to have as its overall objective the improvement of general health through improved dental health. Thus the field of preventive dentistry is being broadened with a view to reducing the incidence of dental caries, irregular teeth, and periodontal disease. The division provides consultant and advisory services to the Provincial Health Departments, and carries on research and educational work in the field of dental health. Close liaison is maintained between the Department and the Canadian dental profession.



## Health Grants

Considerable aid has been given to provincial dental health programs through the General Public Health Grant. During the past five years, five of the eight existing provincial dental health divisions have been established with assistance from this grant and all provinces have utilized it to develop and extend preventive dental services with special emphasis on services to children. Mobile Dental Clinics, some employing Dental Hygienists, have been established, and the number of stationary establishments has been increased; dental services have been improved in many sanatoria and mental hospitals; dentists, dental assistants, and nurses have been employed and many dental personnel have been enabled to undertake training in public health.

## Research and Surveys

The Brantford-Sarnia-Stratford Water Fluoridation Caries Study which has been carried on during the past seven years in co-operation with the Ontario Department of Health and three local health departments, was continued with the usual statistical assistance from the Research Division. In this study, the teeth and gums of 1,700 children in Brantford, where the community water supply is being artificially fluoridated, are being compared with those of 1,700 children in Sarnia, who serve as a fluoride-free control group, and with 1,700 children in Stratford, where the water has had an optimum fluoride content, derived from an underground deposit, for the past 37 years. Examinations were conducted during the year in all three places covering a total of more than 5,000 children. The data collected are statistically processed in the Dental Health Division office at Ottawa with the help and advice of the Research Division.

This division, working with the Nutrition Division, participated in a study of Indian children in Western Canada, obtaining information on their dental health.

A clinical study of the effectiveness of a topical application of stannous fluoride for the prevention of tooth decay, begun last year, was continued. A new study was begun, designed to simplify the technic of topical applications of sodium fluoride to children's teeth. Assistance has been provided by the Research Division and the Food and Drug Divisions in connection with both of these studies. A total of about 1,500 children is involved in these two projects.

## Education and Information Services

To further the cause of prevention, dental health education material was prepared in the form of booklets, folders, posters, for use in schools, health units, industrial plants, and private dental offices. Information material was designed to advise the public, particularly children, concerning the most effective methods of preventing and controlling tooth decay, periodontal disease and malocclusion. Taking into consideration the difficulty of estimating accurately the number of people suffering from infected teeth, alveolar abscesses, pyorrhea, lack of masticating powers and personal disfigurement, the Department has endeavoured to make Canadians realize that only through regular early dental care of the child can dental disease among adults be brought within controllable limits, and diseases related to dental infection and deficiency be avoided.

## Other Activities

Consultative services are provided to the Directorates of Indian Health Services, Health Insurance Studies, Food and Drug Divisions, and the Division of Narcotic Control. Liaison has been maintained with other divisions which share common ground, namely, Nutrition, Child and Maternal Health, and Mental Health.

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## Epidemiology

The increasing use of epidemiological methods within this Department and by Provincial Departments of Health, has again, during 1953-54, augmented the demand for aid and advice in this field. In addition, the progressively expanding National Health Program has afforded many new opportunities for providing assistance.

The Division has met this increasing demand for its services, and has continued to investigate epidemics of disease which, because of their public health aspects, required immediate action. Also maintained were its responsibilities for other disease investigations where a longer term approach is required. The Detroit-Windsor Air Pollution Health Study, and the Influenza Virus Vaccine Evaluation Study in the Province of Quebec are examples.

## Health Grants

The Division continued to advise on Health Grant Projects which called for the employment of epidemiological techniques. The Division's interest in the Detroit-Windsor Air Pollution Study was further intensified. Direction was given to the employment and training of the field staff in Windsor. Sample households were selected and a full-scale sickness survey put into operation. The sickness data so obtained will be correlated at a later date with the amounts of sulphur dioxide and total particulate matter found in the air. Environmental information is being collected along with sickness data. From this study the effect of air pollution on health may be demonstrated. The increasing concern with smog over large industrial areas, both from an economic and health standpoint, has been demonstrated by the keen interest in this study. Numerous enquiries as to the methods being used are being received from both local and world wide sources.

All projects under the Tuberculosis Control Grant were reviewed by the Division and recommendations made as the circumstances warranted. Similarly submissions for grants to the provinces for Venereal Disease Control were reviewed prior to approval.

## Consultations

At the request of the Department of Northern Affairs and National Resources, an investigation of an outbreak of poliomyelitis in the Yukon was made during the spring. Advice and medical assistance were provided by this Division for a period of one month. As a result of this investigation a system of reporting communicable diseases occurring in the Yukon was established. These reports are now being forwarded directly to the Dominion Bureau of Statistics.

Assistance was also furnished the Province of Manitoba during a severe poliomyelitis epidemic which occurred during the summer. Some 2,322 cases and 73 deaths were reported. In co-operation with the provincial authorities, control measures were instituted.

## Surveys

In a further attempt to assess the protective value of influenza vaccine, trial studies were made in the City of Montreal on employees of Molson's Brewery Limited and Canadair Aircraft Company. Blood samples from control and test groups were taken at intervals to ascertain antibody levels. However, as no epidemic of influenza occurred, it was impossible to evaluate the protection afforded.

At the present time the Division is working in conjunction with the Institute of Microbiology in Montreal, in a further effort to evaluate the effectiveness of influenza virus vaccine. Some 8,000 persons are to be included in this study. It is intended to prolong the survey until an epidemic occurs.

## Miscellaneous Activities

The Technical Information Service of the Division has met an increasing demand for its service. Information on the scientific aspects of disease and on field studies in which the Division is interested was provided to many Divisions of the Department, health authorities in Canada and international health agencies.

Tables and graphs of disease incidence were prepared and made available to interested persons in the Department. This service provides up to date information on the health picture in Canada. An intensive effort in poliomyelitis control was maintained with the provinces through weekly telegraphic reporting of cases and deaths. In this way the Department is kept informed at all times on the incidence and location of this disease.

In the field of Venereal Disease Control the procedure followed by the Army, Navy, Air Force, and civilian authorities to follow-up contacts, was carried out as a divisional responsibility.

A draft covering regulations for the standardization of Communicable Disease reporting in Canada has been prepared. A visit was made to the Provincial Departments of Health and the draft regulations discussed with appropriate authorities. A meeting to finalize these regulations is planned with a view to achieving uniformity in all provinces in reporting Communicable Disease.

Co-operation with the Dominion Bureau of Statistics has continued in the preparation of bulletins on Canada's Sickness Survey. Four bulletins have thus far been published and popularly received. The next bulletin dealing with sickness data will be available shortly.

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## Laboratory of Hygiene

### General

During the year, certain changes were evident in the activities of the Laboratory of Hygiene and, in part, these changes reflect the progress that has been made in the public health laboratory field in Canada. Assistance to Provincial Public Health Laboratories by way of provision of diagnostic reagents increased but the number of specimens received by certain sections

of the Laboratory for identification and special study decreased. This was largely due to the fact that the National Health Grants Program has enabled Provincial Departments of Health to develop their Public Health Laboratories to the point where they can now handle many problems which they previously referred to the Laboratory of Hygiene. As a result, the Laboratory has been able to investigate certain basic problems of medical importance and to consider better methods of diagnosing diseases. This is exemplified by the work of the Tissue Culture Section, which undertook studies in cell nutrition and carried out collaborative studies with the Virus Section on the propagation of viruses in tissue culture and in the development of cytopathogenic diagnostic tests. Work of this nature will be expanded with the occupancy of the new Virus Building early in the new year.

Interest in the problems of hospital laboratories was extended during the year. The Bacteriology Section carried out an investigation of wound infections at the Ottawa Civic Hospital and the Section of Serology and Clinical Chemistry completed a Manual of Clinical Chemistry for use in hospital laboratories. A method of assessing work loads in hospital laboratories was introduced which should give a more precise picture of laboratory efficiency and examination costs. This project was part of the service rendered by the staff of the Laboratory of Hygiene in their capacity as consultants to the Directorate of Health Insurance Studies.

Other activities of the Laboratory, while showing no great qualitative changes, did increase quantitatively. The immunization field trials of the Section of Biologics Control were extended to include a study of the value of active immunization of women in the third trimester of pregnancy as a protection against pertussis (whooping cough) in their young infants. During the year, the Director of the Laboratory attended a meeting of the Expert Committee of Biological Standards of the World Health Organization in Geneva and a senior member of the staff attended a World Health Organization Conference on Immunization at Frankfurt-am-Main, Germany.

### Biochemical Research

During the year, studies on the nutrition and metabolism of mammalian cells cultured *in vitro* were continued. Over 145 new synthetic media were tested on approximately 10,000 cultures. Using the chemically-defined synthetic medium 199 of Morgan, Morton and Parker, studies were conducted to determine the growth-promoting properties of a number of naturally-occurring substances. The results indicate that co-enzymes might be the active agents in substances which exhibit such properties. Other studies with medium 199 revealed a specific requirement of tissue cells for the amino acid-L-cystine, when grown *in vitro*. The information obtained from these and other studies has made it possible to look for nutritional differences between normal and malignant cells and, with this end in view, several strains of malignant tumours have been obtained. Techniques necessary for this type of investigation are now being developed.

This Section collaborated with the Virus Section in the development of a cytopathogenic test for the typing of poliomyelitis using cultures of monkey testicular tissue. Medium 199, which is now used for the production of large quantities of poliomyelitis vaccine, is employed in this test. Other collaborative studies with the Virus Section included those on the propagation of Influenza and Mumps viruses in tissue culture. In general, these studies suggest a fundamental difference between the mode of propagation of Influenza and Mumps viruses and that of poliomyelitis in tissue culture.



In addition to the research projects, large quantities of synthetic medium 199 were prepared for use by investigators in Canada, the United Kingdom and the United States.

### Biologics Control Laboratories

Research and control constitute the two main functions of the Biologics Control Laboratories. The control work relates to the Laboratory of Hygiene's functions in its technical and advisory capacity to the Director of the Food and Drug Laboratories. In this latter regard, considerable time was spent in the drafting of some Sections in the new Food and Drug Regulations. The research is divided into two main fields—immunology and antibiotics. The year's progress was as follows:

(a) *Section—Biologics Control Laboratory*—A total of 730 specimens were handled throughout this fiscal year. Tests for sterility, safety, identity and potency of biological drugs, such as vaccines, toxoids, antisera, etc., were carried out as usual. Thirty-seven commercial diphtheria toxoids and 29 commercial tetanus toxoids were assayed and all but one sample of tetanus toxoid were found satisfactory. Pyrogen testing on parenteral fluids for marketing and of blood transfusion materials for the Canadian Red Cross Blood Donor Service were continued. Two hundred and seventy-nine samples were tested and 8 (3 per cent) were found pyrogenic, a slight improvement over last year.

Inspections of establishments holding Canadian Biologics Licence were carried out in Canada, the United States and Europe in order to ensure that the Canadian standards for the manufacture of biological drugs were maintained. Thirty-five establishments were visited and of 21 antibiotic manufacturing plants inspected, 2 were refused licence, the licenses for 3 were cancelled, and 2 were temporarily suspended pending improvements in plant techniques.

(b) *Section—Immunology*—The field trials on oral immunization started three years ago in collaboration with the Provinces of British Columbia and Manitoba were completed. It was found that oral immunization against diphtheria was not as promising as the preliminary results suggested. This method is not as efficient as immunization by the parenteral route and its use in the field has decided limitations. A scientific article, describing the study, appeared in the March (1954) issue of the Canadian Journal of Public Health.

Further small studies on the use of oral immunization are in progress in collaboration with the Ontario Veterinary College. An attempt is being made to determine the value of annual booster doses against tetanus (lock-jaw) using both the oral and parenteral route. This study will not be completed for another three or four years.

Studies on the immunization of infants, carried out in collaboration with the City Health authorities of Montreal, against diphtheria, whooping cough and tetanus to determine the optimal dosage and the value of booster doses are continuing. Several new studies on the value of pre-natal immunization against whooping cough were started late in the year in collaboration with the City Health authorities of Montreal and the medical staff of the Royal Victoria Hospital, Montreal. It is hoped that by immunizing the mothers during the last trimester of pregnancy antibodies against whooping cough will be passed on to the infants so that the infant will be protected until it can be actively immunized against this disease.

(c) *Section—Immunochemistry*—Studies on the effect of antibiotics on bacterial metabolism have been continued. Arginine degradation by *Micrococcus pyogenes* var. *aureus* has been investigated in some detail and a report

on these studies (Arginine Degradation by *M. pyogenes* var. *aureus*) has been submitted for publication. Comparison of the amino acid requirements of penicillin-sensitive and resistant strains of *M. pyogenes* var. *aureus*, obtained from hospital patients, has been completed.

The development of increased acute toxicity of Streptomycin solutions during storage and the loss of this toxicity upon dilution has been investigated. A quantitative and specific colorimetric test for Viomycin has been developed and a description of this method has been accepted for publication in Antibiotics and Chemotherapy.

The trend towards the preparation of mixtures of antibiotics for chemotherapy has increased the need for chemical methods for the assay of the components of the above mixtures. During the past year, the Chemists of this Section have devoted considerable time to developing proficiency with these methods.

Considerable progress has been made in studies on the nonspecific bactericidal activity of normal human serum. By means of fractionation procedures and respiration studies, it has been possible to define and confirm some of the characteristics of a blood component (not complement) responsible for the activity against gram negative bacteria, such as *S. typhosa*. The effect of serum lipids and mucin fractions on the antibacterial properties of this substance has also been studied.

(d) *Section—Antibiotics Laboratory*—During the year, 2,528 separate lots, representing 200 different antibiotic preparations, were received. The following tests were carried out:

potency (chemical) .....	76
potency (microbiological) .....	562
toxicity .....	121
sterility .....	121
pyrogen .....	108

A seemingly endless stream of new antibiotics is appearing on the Canadian market. A total of 57 new drug submissions were received and reviewed during the past 12 months. In most cases, specimens were requested and tests performed. In many instances, it was necessary to develop new test procedures for the newer products.

Studies to determine the stability of antibiotic preparations under varying storage conditions were undertaken. On two products alone, i.e., Neomycin and Bacitracin, over 100 assays were carried out in the course of this work.

## Medical Bacteriology

(a) *Enteric Centre*—The Laboratory of Hygiene is officially recognized as the National Salmonella and Shigella Typing and Reference Centre. During the year, a total of 717 cultures were received for identification. Of these, 542 were typed as Salmonella and 119 as Shigella. Twenty-six different types of Salmonella were identified including *S. bovisverificans*, which was reported in Canada for the first time. The commonest types were *S. typhi* murium (37.8 per cent), *S. typhi* (15.6 per cent) and *S. paratyphi* B (11.2 per cent). *Shigella sonnei* and *Shigella flexneri* 2A were the predominant strains of dysentery organisms.

Diagnostic reagents prepared and supplied to the provinces included a total of 960 milliliters of antisera and 255,370 milliliters of agglutinable suspensions.

(b) *Staphylococcus Phage Typing*—At the 6th International Congress of Microbiologists in Rome, a senior member of the Laboratory staff was appointed Canadian representative on the International Sub-Committee for the Bacteriophage Typing of Staphylococci. This Laboratory will become the National

Reference Centre for Staphylococcal Phage Typing and has commenced preparation of stocks of standard phages and propagating cultures for distribution to other laboratories in Canada. Close liaison is being maintained between this Laboratory and the International Reference Centre at Colindale, England.

Collaborative studies have been continued with the Ottawa Civic Hospital and the Sick Children's Hospital in Toronto. Infections due to antibiotic resistant Staphylococci have become a serious hospital problem; the incidence, method of spread, phage typing resistance of the strains involved is being actively investigated at the Ottawa Civic Hospital. This Laboratory has continued to perform antistreptolysin O determinations on patients' sera in a collaborative study on rheumatic fever with the Hospital for Sick Children.

### Sanitary Bacteriology

In this field, the Laboratory continued to provide services to the Food and Drug Divisions and to the Division of Public Health Engineering, with particular emphasis on the shellfish-producing areas in the Maritime Provinces.

(a) *Shellfish Control*—As part of the control of the shellfish industry and of certification of shippers by the Department of Fisheries for export of their produce to the United States, the Mobile Laboratory conducted surveys during the year in Prince Edward Island and New Brunswick. In addition, shucked market oysters imported from the United States were examined bacteriologically.

(b) *Clam Studies*—Investigations started last year on the possibility of purifying clams taken from sewage-polluted areas were continued in collaboration with the Department of Fisheries and the Fisheries Research Board. A pilot plant operation was established in New Brunswick for the semi-commercial processing of clams taken from closed (moderately polluted) areas. This was operated for three months, during which time bacteriologists from this Laboratory studied all phases of the cleansing process. Results to date indicate that the principle is sound and practical, provided that a suitable cleansing area can be found and adequate bacteriological supervision maintained.

### Training Course

A two-week training course in Sanitary Bacteriology was conducted late in the year. Ten senior technicians from eight Provincial Departments of Health attended, and received classroom and laboratory instruction in standard and non-standard procedures for the bacteriological examinations of water, milk, dairy products and eating utensils.

### Parasitology

This Sub-Section continued to operate at the Institute of Parasitology, Macdonald College, P.Q. Sixty-five samples of faecal material were received from various Provincial Laboratories and hospitals for confirmatory diagnosis. The parasites identified included representatives of all the common Canadian pathogenic and non-pathogenic protozoa and helminths.

A survey of the accuracy of Provincial and Armed Services Laboratories in the diagnosis of intestinal parasites was conducted. During a four-month period, 30 shipments each containing 6 to 8 unknown samples were examined by each laboratory. The specimens of parasites contained in these samples covered the common and pathogenic parasites occurring in man in Canada. The accuracy of the parasitological diagnosis was far from perfect and the pathogenic protozoa *E. histolytica* had the highest percentage of inaccurate diagnosis.

A four-week course in diagnostic parasitology was given at the Institute of Parasitology and was attended by technicians from two provinces.

In co-operation with the Indian Health Services, a survey of hydatid diseases was carried out in northern British Columbia, Northwest Territories and Alberta. A preliminary report has been prepared and the survey is being continued.

## **Virus**

During the first part of the year, the Virus Section in collaboration with the Provincial Departments of Health carried out a laboratory investigation of an Influenza epidemic which had occurred in several provinces. Several identical A-prime strains of Influenza virus were isolated from specimens received. In one case, a type B Influenza virus was recovered. The results were reported to the World Health Influenza Centre of W.H.O. in London, England.

In collaboration with the Division of Epidemiology, a number of stool specimens were received from western provinces experiencing poliomyelitis epidemics in 1952, to be examined for the co-existence of poliomyelitis and Coxsackie viruses. Laboratory investigations, which were carried out in collaboration with Dr. A. J. Rhodes, Director of Research, Hospital for Sick Children, Toronto, revealed the presence of Coxsackie Type A and poliomyelitis type 3 viruses in Kimberley, B.C., but only poliomyelitis type I virus in the case of the Vancouver specimen as well as in Saskatchewan and Manitoba specimens. A Coxsackie A virus was isolated from another Manitoba specimen not in this series. Also in co-operation with the Division of Epidemiology and Dr. Rhodes, a poliomyelitis epidemic at White Horse, Yukon Territory, was investigated. Poliomyelitis type I, but no Coxsackie viruses, were isolated from these specimens.

The Virus Section is now prepared to attempt Coxsackie virus isolation on request. Antigen pools have been prepared from the 14 strains of this virus group which are maintained in this Laboratory. No new strains were recovered from specimens submitted during 1953.

During the year, the number of standardized antigens and antisera which the Virus Section distributes to the Provincial Health Laboratories for the routine diagnosis of viral infections was augmented by the addition of herpes simplex, Newcastle disease, vaccinia and psittacosis antigens.

A total of 244 sera were received from the Provincial Departments of Health, the Departments of National Defence, Veterans Affairs and the Indian Health and Immigration Medical Services. Two thousand, two hundred and eighty-one serological tests were carried out. A total of 154 specimens including throat-washings, stools, spinal fluid, bloods and materials from skin lesions and autopsies were received. Six hundred and forty-seven serological tests were carried out with antigens derived from these specimens.

In the Fall of 1953, a start was made on the development of a poliomyelitis diagnostic service using tissue culture techniques. The service of a technician experienced in tissue culture methods was secured and monkeys were immunized for the purpose of obtaining type specific antisera. This service will be made available to the Provincial Departments of Health but cannot be fully developed until the new Virus Laboratories are occupied.

Attempts were made during the year to produce improved non-infectious Influenza and Mumps viral antigens. An accurate method for the determination of nitrogen in biological materials was developed and is permitting a quantitative investigation of antigen purification to increase the potency and specificity of viral standard reagents.



## Serology and Clinical Chemistry

*Serology:* Various measures to maintain uniformity in the blood test for syphilis throughout Canada has been continued. In collaboration with the Provincial Directors, the highly purified diagnostic reagent, cardiolipin antigen, is gradually being adopted. Standardized antigens and complement prepared by the Laboratory of Hygiene are being used by all ten Provincial Public Health Laboratories in the performance of serodiagnostic tests for syphilis. During the year, about 60 litres of Kahn antigens, as well as smaller quantities of Kolmer, V.D.R.L. and Mazzini antigens were distributed. In addition, 34 litres of guinea pig serum (complement), prepared and dried at the Laboratory, were sent to Provincial Laboratories.

Studies on the substitution of synthetic compounds for naturally occurring cardiolipin and lecithin presently used in cardiolipin antigens have been continued in collaboration with Dr. Erich Baer of the Banting Institute. Preliminary findings have been reported in "Science". The stability of antigens prepared with synthetic saturated lecithin has been investigated intensively.

A laboratory is being equipped for the performance of the Treponema Pallidum Immobilization Test, which is a highly technical confirmatory procedure in the diagnosis of syphilis. This unit, along with one already functioning in the Ontario Provincial Laboratory, will examine specimens from all of the provinces.

Due to the relatively low incidence of syphilis in certain areas, difficulty has been experienced in obtaining sufficient serum to use as positive control serum in serodiagnostic tests for syphilis. By immunizing rabbits with a suspension of antigenreagin floccules, a serum has been obtained which serves equally well. Storage studies have indicated that the material is stable for at least fifteen months. The method has been submitted for publication.

*Clinical Chemistry:* A Manual of Procedures in Clinical Chemistry for use in hospital laboratories is being prepared following an extensive evaluation of analytical methods. In the choice of procedures for the manual, simplicity and accuracy have been stressed.

Selected methods for estimating 17 different constituents of blood and a number of constituents of urine were studied in detail. Micro methods for determining a variety of blood constituents were also tested. An evaluation of various qualitative methods for urinalyses was conducted. Instruments of various types, such as photoelectric colorimeters, spectrophotometers and flame photometers, were examined and tested. Copies have been submitted to members of a committee of the Canadian Association of Pathologists for their critical comments and suggestions.

The accuracy of blood glucose determinations in a group of 12 hospital laboratories in one province was evaluated by distributing 6 glucose solutions, 15 protein-free blood filtrates and 10 whole blood samples. Standard solutions of a variety of common blood constituents were sent to a hospital laboratory in order to check the accuracy of their methods. The stability of the various samples was tested in each case and much useful information was gained which will aid in future developments of this program.

Considerable time has been spent this year on methods for accurately determining hemoglobin in blood with the object of providing a standard blood sample for distribution to hospital laboratories for checking and standardizing hemoglobin estimations.

A special study of the methods of determining the oxygen capacity of blood has been conducted to compare its usefulness and accuracy with iron analysis for standardizing hemoglobin determinations.

During the year, the Clinical Laboratory collaborated with various clinicians in studies of the endocrine function of the thymus and of laboratory aspects of diabetic coma.

The senior officer of the division has continued to serve on two international committees: (a) Sub-Committee for the Development of Standard Serologic Methods of the American Public Health Association; (b) Expert Advisory Panel on Serology and Laboratory Aspects of the World Health Organization.

### **Report of the Laboratory of Hygiene (Western Branch, Kamloops, B.C.)**

The Western Branch Laboratory is now completing its fifteenth year of operation at Kamloops and this will be the last year in which it will operate in this location. Arrangements have now been made to transfer its activities to the new Virus Laboratory in Ottawa. This year, there has been less demand on laboratory personnel to assist Provincial Health Departments with their survey programs. Only 8,800 tissue and ecto-parasite specimens were received at the laboratory for examination as compared with 15,000 the previous year.

The smaller number of specimens permitted more detailed examinations. Most of the tick specimens submitted from Alberta were examined by means of baby hamster inoculation and serial transfers in baby mice for indications of the virus of Colorado tick fever. This virus was reported by another laboratory to have been found in ticks submitted by the National Parks Branch from Banff National Park but there was no evidence of the virus in the specimens examined at this laboratory.

No signs of Rocky Mountain spotted fever infection were found in the ticks examined this year, although a clinical case of the disease in a young woman was reported from Banff. Tularemia (*Pasteurella tularensis*) was encountered in four different lots of ticks submitted from Alberta. No evidence of plague (*Pasteurella pestis*) was found this year.

*Spirillum minus* infection (rat bite fever) was encountered again this year and a further study of the infectious agent, particularly its filter passing ability, was undertaken.

Diagnostic antigens (*brucella*, *pasteurella* and *proteus*) were again prepared and distributed to Provincial Public Health Laboratories and to D.V.A. During the year, sufficient antigens were prepared to conduct over 15,000 diagnostic tests. Some fifty diagnostic tests were carried out for tularemia, brucellosis and leptospirosis as a service to the Indian Health Services and various Provincial Government services.

### **Canadian Tumour Registry**

During the year, the Canadian Tumour Registry was transferred to the new Medical Building of the University of Ottawa, where it continued to function under the direction of Dr. Desmond Magner.

### **Technical Advisory Committee on Public Health Laboratory Services**

The ninth annual meeting was held in Ottawa on December 10, 11 and 12, 1953. Highlights included a talk by Dr. R. E. O. Williams of the Public Health Laboratory Service of England and Wales on *Staphylococcus* phage typing and on problems of hospital infections.

The Committee discussed the new Laboratory and Radiological Services Grant with representatives of the Directorate of Health Insurance Studies and recommended certain changes in the wording of some of the terms. Reports from a number of committees and from sections of the Laboratory of Hygiene were presented and discussed.

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## **Mental Health Division**

The Mental Health Division promotes mental health programs and provides educational materials of all types for the provinces. It gives consultant services to provincial departments of health as well as other divisions in the Department of National Health and Welfare. Special studies of various mental health problems are made and the division serves in an advisory capacity in the administration of the federal mental health grants.

### **Mental Health Grant**

As in past years the mental health grant continues to have a significant influence on the development of new mental health services and the improvement of existing services in this country. As a result of the training programs which were instituted with grant funds, more mental health workers, including such ancillary workers as psychiatric nursing aides and occupational therapy aides, are now becoming available. Research projects are adding to the fund of knowledge concerning mental health and mental illness. The number of mental health clinics is slowly but surely increasing as are psychiatric services in general hospitals.

During the year under review 220 projects were supported by the mental health grant. A total of \$5,869,465 was allocated as follows: mental health divisions \$131,866; mental hospitals \$3,163,259; psychiatric services in general hospitals \$603,112; mental health clinics \$700,921; training programs \$362,612; bursaries \$399,344 and research \$508,351.

### **Consultant Services**

The Division continued to provide consultant services to provincial departments of health and to other divisions in the Department, particularly Narcotic Control, Hospital Design, Indian Health, Immigration Medical Services and Civil Defence. Because of the continued public interest in the problem of narcotic addiction the chief of the division, in conjunction with the chief of the Narcotic Control Division and the Department's senior legal adviser continued to study this subject in all its phases.

### **Public Education**

During the year a monthly newsletter, "Canada's Mental Health", was initiated thus fulfilling one of the functions originally set up for the division. This publication is being sent to all types of mental health personnel and agencies across Canada and has met with widespread commendation. Two booklets, "Community Mental Health Services" and "Services for the Care and Training of Mentally Defective Persons in Canada", were prepared and distributed. Three more folders in the Child Training Series, "Destructiveness", "Preparing Your Child for Medical and Dental Care" and "The Only Child",

were produced as well as three general informational folders, "Epilepsy", "Mental Health", and "Mental Health Clinics". In the audio-visual field, the fourth film in the Ages and Stages Series, "From Sociable Six to Noisy Nine", was released and a filmstrip "Preparing Your Child for Medical and Dental Care", based on the child training folder on the same subject, was produced.

### **Advisory Committee on Mental Health**

The Advisory Committee on Mental Health met in Ottawa in September 1953 and heard reports of the sub-committees on research, statistics, training, and public education. At this meeting new subcommittees on research, statistics, and training were appointed while the subcommittee on public education was re-appointed.

### **Research**

In the field of research the Advisory Committee on Mental Health has correlated a large and growing body of investigations, appraising all research projects financed under the mental health grant. By maintaining close liaison with the National Research Council and the Defence Research Board, as well as with privately endowed foundations and universities, a balanced program of research has resulted with 42 projects now under way. Approximately 7½ per cent of the mental health grant is presently devoted to research and funds expended in this field in the past five years have accomplished much, drugs have been tested for their usefulness in mental illness and better therapy techniques developed, to name but two spheres of activity. The subcommittee on research met twice during the year and studied the projects under way.

### **Statistics**

In the statistical field considerable progress has been made through closer co-operation with the Institutions Section of the Dominion Bureau of Statistics. Through the Advisory Committee's recommendation for improved reporting methods and additional interpretative data, the D.B.S. annual reports on mental institutions are now more useful than at any time in the past. As of this year, the national statistics on mental illness will be available within the year of collection and hence of current value. Formerly there was a lapse of several years. At the present time Canadian statistics on mental illness are more extensive, more reliable and more meaningful than those produced by any other country.

### **Training**

One of the major stumbling blocks in the implementation of the National Mental Health Program has been lack of trained personnel—psychiatrists, psychologists, psychiatric nurses and psychiatric social workers. The Advisory Committee on Mental Health has recommended surveys in this field to assess existing situations and lay the basis for sound future planning so that key personnel are now being brought into the mental health field in growing numbers. Close liaison with the faculties of psychiatry and psychology at the universities has resulted in stepped-up training programs for service and research personnel. Training programs for mental hospitals staffs are being



explored. To study the question of the minimal content of training for psychiatric nurses and attendants, a consultant in nursing was employed in the mental health division during the past year. The subcommittee on training met twice during the year to further its studies on this crucial problem.

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## Nutrition Division

The Nutrition Division continued its efforts to estimate the nature and extent of nutrition problems in Canada and to improve nutrition by providing technical services to provincial and national agencies. The major project during the past year was a national survey of the heights and weights of Canadians. The study in six Indian Residential Schools, started in 1949, was completed. A survey showed that the food habits of Canadians had improved since 1942 in several items stressed in Canada's Food Rules.

Nations have been urged to determine the heights and weights for age of their populations instead of using older unrepresentative tables. Canada is believed to be the first nation to undertake such a study. Nutrition Division staff weighed and measured over 20,000 persons statistically chosen by the Dominion Bureau of Statistics to represent the Canadian population. A table of average weights for height, age and sex will be published in the near future.

The nutrition study in six Indian Residential Schools was completed except for one specialized project—continuance of the study in one school that showed poor haemoglobin formation.

A food habit study to determine the overall effect of nutrition education paralleled a similar national survey carried on in 1942. The results indicated an encouraging improvement in food habits but also indicated continuing defects.

Educational materials for use by provincial health personnel have continued to be produced according to the expressed needs of provincial workers in the field.

A nutrition film—Food For Freddy (*Le Menu de Michel* in French) and a film strip—The Meaning Of Nutrition—were completed.

In addition, just over 1,000,000 printed items were produced for distribution by provincial health departments. Most of these were re-issues or revised versions of earlier publications that have proved their worth. Four items were new—How to Plan Meals for Your Family, Nutrient Value of Some Common Foods, Canada's Food Rules (illustrated leaflet) and Institutional Meals for Twenty. Items in production but not completed include a Food Guide For Older People and a breakfast poster.

Canadian Nutrition Notes was issued monthly. Other items were sent to Provincial nutritionists and to Indian Schools. Also printed during the year were the Canadian Bulletin on Nutrition, Vol. 3, No. 1, An Appraisal of Canadian Nutrition, and Vol. 3, No. 2, A Dietary Standard for Canada. These two bulletins are sold by the Queen's Printer at 50¢ each.

To further encourage interest in nutrition, the second Nutrition Photograph Contest was sponsored. There were slightly fewer entries than in the previous year but they were of higher calibre.

Talks given by members of the staff of professional groups and at nutrition institutes encouraged a better understanding of the importance of proper eating.

The Nutrition Division continues to receive numerous requests for information on food values and related subjects. Requests are handled individually, some being answered in the division and others being sent to the Correspondence Section for attention.

Other nutrition activities were directed to specific population groups. The Test Kitchen continued work on 'nutritionally improved' recipes for non-profit institutions among which was a recipe for barley gruel in Korea. One pamphlet of tested recipes was published. The new booklet Institutional Meals for Twenty was prepared at the request of the provincial nutritionists for use in their work with small hospitals, homes for the aged, orphanages, etc. The two books for campers—Feeding Fifty Campers and Feeding Twenty Campers—were rewritten.

Advice on kitchen planning for hospitals, institutions and cafeterias was provided as a consultation service to other government departments. Indian Health Services also received advice concerning the food service in Indian Residential Schools.

A study of special purpose foods, often mis-called 'dietetic foods', was started for the purpose of finding out what types of food are available, whether they are of value, what is meant by the term dietetic foods and whether some other designation might be more appropriate.

The referral service, offered through the Civil Service Health Division, for federal civil servants with nutritional problems was continued. Instruction was given to Nursing Counsellors.

Laboratory service to provincial laboratories and hospitals was provided during the year. Vitamin A, Carotene and Ascorbic Acid analyses and Vitamin A Tolerance Tests were carried out on samples sent in by several institutions as well as a series of 50 urine specimens for thiamine, riboflavin and niacin.

The study of nutrition as a possible causative factor in Leber's optic atrophy was continued with regular follow-up visits and social service referrals being made for families and individuals in the genetically susceptible groups in the Ottawa area and in northern Ontario. Re-examinations of some of the affected cases, as well as susceptibles who presented new eye complaints, were done. Therapy was continued on two of the most recently developed cases. Collateral branches of the present family tree are being sought. Other family groups with hereditary optic atrophy are being investigated.

During the first half of the year the social worker also actively co-operated in the multiple sclerosis survey, done by the Epidemiology Division.

The Nutrition Division continued to give assistance to federal Civil Defence officers including advice on equipment for the kitchen at the Canadian Civil Defence College, Arnprior, and on plans for the first course on Emergency Feeding to be given at the College early in 1954-1955. Storage tests on canned and packaged household foods of Civil Defence importance continued into the third year.

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## Other Research Activities in the Health Field

The Research Division, while not in the Health Branch, provides research services to the Branch in the conduct of a variety of socio-economic studies in the health field, including investigations relating to medical and hospital

care, studies in health insurance, surveys concerning the incidence and implication of sickness and disability, analysis of health resources including hospital and other health facilities, health personnel and health services, and the maintenance of an information centre on health legislation in Canada.

The Division also makes available technical and consultative services, particularly in respect to planning and methodology, to the various Divisions and Directorates in the Health Branch. A summary of the activities of the Research Division is provided in the Administration Branch section of this Report.

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# WELFARE BRANCH

## Introduction

### Administration

The social security programs administered by the Welfare Branch remained the same, but the number of beneficiaries increased under the Family Allowances Act, the Old Age Security Act, The Old Age Assistance and the Blind Persons Allowances Acts. This resulted in a corresponding increase in the total amount of statutory benefits paid.

The administration of Family Allowances and Old Age Security became more closely integrated and improvements in administration enabled the larger number of accounts to be handled by a smaller staff.

The numbers qualifying for old age assistance are still lower than was anticipated when the program was planned, but the proportion qualifying at the minimum age of 65 is increasing. The numbers receiving blindness allowances remained fairly constant. It should be borne in mind that these numbers do not include blind persons of 70 years and over who receive old age security.

The Speech from the Throne announced the Government's intention to introduce enabling legislation to provide for allowances for the totally disabled in those provinces which agree to share the cost of the allowances and to undertake their administration. The proposed program was discussed with the provinces in January, 1954, at a meeting of the Advisory Board appointed under the Old Age Assistance Act and the Blind Persons Allowances Act.

Seven provinces and the Northwest Territories continued their agreements under the Physical Fitness Act and utilized to the full the funds available to them.

Applications of welfare organizations for incorporation under the federal Companies Act were examined by the Welfare Branch at the request of the Secretary of State.

An amendment to the Excise Tax Act, passed in 1950, provides for the exemption from sales tax of public institutions devoted to the care of children, the infirm and the aged, if they are certified by the Minister of National Health and Welfare to meet the requirements of the Act. Thirty-nine institutions were certified during the fiscal year. This brings the total of institutions certified to 369. Questionnaires were sent to the first 300 institutions for whom exemption had been approved to ascertain whether they were still eligible for exemption. As a result of the information received, the certification of 21 institutions was cancelled.

Research continued in the field of social legislation with particular attention to the fields of welfare and social security. The final report of the nationwide Survey of Welfare Positions was completed and prepared for publication. The bulletin on Mothers' Allowances legislation in Canada was brought up-to-date and will be prepared for publication after clearance by provincial departments of welfare. A report on developments in community, family and child welfare in Canada for the four years 1949 to 1953 was prepared at the request of the United Nations Department of Social Affairs and is to be processed for distribution in Canada.



Representation was provided to certain inter-departmental committees. These included the Civil Defence Co-ordination Committee; the Advisory Committee on Citizenship; the Interdepartmental Advisory Committee on Immigration and its Sub-committee on Migration Policy; the Interdepartmental Committee on Social Security; the Interdepartmental Committee on Unemployment Questions; and the Interdepartmental Group on Technical Assistance, which deals with requests for experts and scholarship and fellowship programs from the Colombo Plan, United Nations Technical Assistance and certain United Nations specialized agencies.

The Welfare Branch continued to arrange programs for social welfare fellowships and scholarships awarded by the United Nations for study in Canada. Fellowship holders were received from the following countries: Australia, China (Formosa), Dominica B.W.I. (2), France, Guatemala, Israel, Japan, Jordan, Philippines, Triland. Scholarship holders came from the following countries: Bolivia, China (Formosa), India, and The Virgin Islands (2).

The Welfare Branch provided Canadian representation to certain United Nations meetings: The Deputy Minister of Welfare, Dr. George F. Davidson, was a member of the Canadian Delegation to the Eighth General Assembly in New York, from September to December, 1953. He was elected to serve as chairman of the Third Committee dealing with social, humanitarian and cultural questions. The Director of Family Allowances and Old Age Security, Mr. R. B. Curry, was the Canadian delegate to the Ninth Session of the Social Commission, held in New York in May, 1953, and was elected chairman of the Commission. The Executive Assistant to the Deputy Minister, Mrs. D. B. Sinclair, was the Canadian representative to the United Nations Children's Fund (UNICEF). She attended meetings of the Program Committee and the Executive Board held in New York in September, 1953, and March, 1954.

The main Welfare Branch expenditures were:

	<i>Administration</i>	<i>Net Benefits</i>
Welfare Branch .....	\$ 30,050	
Family Allowances} .....	2,400,230	\$350,113,902
Old Age Security }		338,970,791
Old Age Assistance }	98,467	20,288,152
Blind Persons Allowances }		2,914,102
Physical Fitness .....	56,999	170,195
Totals .....	<u>\$2,585,746</u>	<u>\$712,457,142</u>

## Family Allowances and Old Age Security

### General

During the year ended March 31, 1954, the uniform pattern of organization for all Regional Offices which had been under consideration at the close of the last fiscal year was achieved. This plan provides for division of a Regional Office into a limited number of sections, in accordance with the functions to be performed. Three of these sections, namely "Administrative Services", "Central Registry" and "Welfare Services" are responsible for the duties which are evident from their names, in connection with both Family Allowances and Old Age Security. Other sections are designed to perform various functions relative to Family Allowances exclusively, and still others those involved in the administration of Old Age Security. In all offices, with the exception of those where local conditions make minor deviations from the pattern a necessity, the organization was altered in whatever degree was necessary, during the past year, to conform with the established plan. With this came the closer co-ordination of the Family Allowances and Old Age Security programs which had begun in the fiscal year 1952-53.

The functions of the Division during the year ended March 31, 1954, remained the same as those of the previous year, namely the administration of the Family Allowances Act, the Old Age Security Act and the respective Regulations. Developments which occurred were those brought about by a continuing increase in the work-load carried by all Regional Offices, improvements in procedures and the alteration of office organizations mentioned above.

The extent of the increase in work-load is shown by comparing the numbers of active Family Allowances and Old Age Security accounts maintained by all Regional Offices in the months of March, 1953 and March, 1954. In the case of Family Allowances, the number of active accounts rose from 2,056,354 to 2,131,329, an increase of 74,975. In the case of Old Age Security, the number rose from 691,386 to 722,476, an increase of 31,090. It will be seen that the total increase in Family Allowances and Old Age Security accounts amounted to 106,065. The Regional Office having the greatest proportional increase in work was that in Ontario. In that office alone there was an increase of 30,538 Family Allowances accounts and 11,322 Old Age Security accounts. Such expansion naturally gave rise to numerous problems relative to staff, accommodation and equipment, imposing considerable strain on all.

One interesting project carried out during the year under review and which was not part of the normal operations of the Division was related to the Coronation of Her Majesty Queen Elizabeth II. His Excellency, the Governor General, wished to commemorate the occasion by presenting to each child born in Canada on Coronation Day, June 2, 1953, a silver spoon. His office solicited the assistance of this Division in obtaining the names of children born on that day. Arrangements were made whereby Regional Offices submitted to the National Office lists of children born on June 2, 1953, with the names and addresses of their parents or guardians. These were obtained from Family Allowances registration forms, and details of birth were verified through the cooperation of provincial Registrars of Vital Statistics. The lists were forwarded to the office of His Excellency, the Governor General, and the spoons mailed from there. A total of 1,310 children received these mementos.

### Staff

As at March 31, 1953, there were 820 permanent and temporary employees and 45 casual employees on the staff of the Division. At the end of March,

1954, there were 837 permanent and temporary employees. There were, therefore, 28 fewer persons employed in the work of the Division at the end of the fiscal year 1953-54 than at the end of the preceding fiscal year, despite the fact that there was, as mentioned, an increase of 106,065 in the total number of Family Allowances and Old Age Security active accounts maintained by the Division, with a resulting increase in every phase of the work.

Among the Regional Directors there were two changes during the year under review. The Regional Director for New Brunswick, Mrs. A. S. Fergusson, resigned on her appointment to the Senate. As the result of a promotional competition open to members of the Government service, she was replaced by Mr. A. Nicholson, who had been Regional Director for Prince Edward Island. Mr. Nicholson in turn was replaced as Regional Director for Prince Edward Island, also as the result of a promotional competition, by Mr. A. S. Tait, formerly a member of the staff of the New Brunswick Regional Office. Among other staff members there was a considerable turnover in certain Regional Offices, in those areas where there are particularly good opportunities for non-governmental employment.

### Costs of Administration

The costs of administering the Family Allowances and Old Age Security programs rose slightly during the year 1953-54. The following is a comparison between costs for 1952-53 and those for the past year:

	Dept. of National Health & Welfare	Dept. of Finance (Treasury)	Dept. of Public Works	Total
1952-53 .....	\$2,297,535	\$3,121,747	\$ 245,750	\$5,665,032
1953-54 .....	\$2,400,230	\$3,110,053	\$ 212,200	\$5,722,483

It is of interest that of Treasury's expenditures of \$3,110,053, the amount spent for postage of cheques was \$1,286,329.

### Welfare Services

The past year has seen the Welfare Sections of all Regional Offices become increasingly active in the field of Old Age Security. Welfare personnel have concentrated their efforts in dealing with the appointment of trustees, the conducting of tribunals and the visiting of institutions caring for aged persons. Experience has confirmed that the decision to remove a pension from the hands of a pensioner and place it in the hands of a trustee is one that has a number of welfare aspects, and that, therefore, the trained social workers employed by the Department are best fitted to advise on such decisions.

In most Regional Offices the Regional Director has been able to make use of the welfare staff in setting up tribunals to give an opinion as to the age of applicants for Old Age Security pension. This was felt to be a logical use of the departmental social workers because of their experience in establishing community contacts.

The senior social workers and other senior personnel in the Regional Offices have now visited all institutions in the country caring for older citizens. These visits have resulted in the clarification of policy with respect to the payment of pensions to persons residing in these institutions.

The Welfare Sections have continued to be active in Family Allowances. No new phase of work was undertaken during the past year. It was a year of consolidating gains achieved, particularly in the visitations to child placing agencies and institutions.

## FAMILY ALLOWANCES

### General

The following table shows an increase in the number of families and children benefitting from Family Allowances in March, 1954, as compared to the number in March, 1953:

	No. of Families	No. of Children	Expenditures
March, 1954 .....	2,116,709	4,942,044	\$29,812,438
March, 1953 .....	2,041,341	4,729,172	\$28,456,441
Increase .....	75,368	212,872	\$ 1,355,997

Total net payments for the fiscal year 1953-54 were \$350,113,902, an increase of \$15,916,218 over the preceding fiscal year. Tables 20 and 21, appended hereto, give additional details regarding payments of allowances.

### Indians

At the end of March, 1954, there were 20,306 active Indian Family Allowances accounts maintained in Regional Offices. This Division continued to work closely with the officials of the Indian Affairs Branch of the Department of Citizenship and Immigration, including all Indian Superintendents, in connection with matters arising in the payment of Family Allowances to Indians. A new procedure was developed for conducting the yearly check between Regional Office records relating to Family Allowances paid to Indian families and those of the Indian Superintendents. This involved preparation of a card for each Indian account, showing the amount paid for a given month, and the names and birth dates of the children on whose behalf allowances were paid in that month as well as the name and address of the recipient. These cards were despatched to the respective Indian Superintendents, who then checked the details against their records to determine whether there were any discrepancies which might have caused overpayments of allowances. This procedure was implemented in all Regional Offices holding Indian accounts, and proved to be a considerable improvement over that previously used.

In some areas it was possible for members of the staff of this Division to visit Indian reserves and settlements in company with Indian Superintendents, and these visits were found most useful from all points of view. The following quotations from the report of one staff member who visited a number of Indian settlements during the past year point up the benefit of Family Allowances to Indian families and are indeed gratifying:

"Mr. -----, Hudson's Bay Manager, told me the women spend their Family Allowances very wisely. He showed me several bills as examples. Bread, oranges, milk, children's shoes, washing ingredients and other essentials were the main items. He also mentioned that they are not inclined to spend all the money the day it arrives. Rather, they conserve it to last far into the month. This was the general opinion of the Hudson's Bay Managers on all the Reserves."

"I was repeatedly told how the advent of Family Allowances had improved the standard of living for Indian children."

### Eskimos

The new Family Allowances Regulations which came into effect in March, 1953, made provision, for the first time since the inception of Family Allowances, for the payment of allowances to an Eskimo parent in cash rather than



in "kind". It was soon afterwards recommended by the Department of Northern Affairs and National Resources that consideration be given to payment by cheque direct to certain Eskimo parents. After discussion between officers of the two departments, it was agreed that this area could be entered gradually, and specific recommendations as to those parents who should receive direct payment in cash were made by the Department of Northern Affairs and National Resources. The first cheques were issued to Eskimo parents in July, 1953. There are now approximately 150 Eskimo families receiving payment of allowances by cheque, out of a total of 1,652 active Family Allowances accounts. It is expected that further recommendations for this type of payment will be received from time to time from the department concerned. From all reports, it appears that the new method of payment is working out very well.

### **School Attendance and Employment**

In the fiscal year 1953-54, a total of 8,993 children lost allowances for one or more months because of non-attendance at school. In the year 1952-53, 11,817 children had lost allowances, thus there was a decrease of 2,824 in the past year as against the immediately preceding year. Since, in general, reporting by school authorities of cases of unsatisfactory attendance improved during the past year, it seems safe to assume that instances of absenteeism for insufficient cause declined. The loss of allowances resulting from non-attendance at school is undoubtedly a factor in the general increase in attendance, as is the fact that many parents are better able to feed and clothe their children because of receiving allowances. In addition, the Family Allowances administration extends assistance in cases where chronic absenteeism appears to result from a social problem. The problem is brought to the attention of a local social agency, where possible. In many instances this has resulted in solution of the problem and a return of the child or children concerned to school.

With regard to employment of children under sixteen years of age, there were fewer children who lost allowances for this reason in the fiscal year under review than in the preceding year. In 1952-53 there were 23,113 children effected, and in 1953-54, 20,815, a decrease of 2,298. The difference was no doubt at least partially caused by the implementation of the new Family Allowances Regulations, dated March 5, 1953, which removed the ceiling on the earnings of a child who is in satisfactory attendance at school. Formerly, allowances were discontinued for earnings outside of school hours in excess of \$35 monthly.

### **Overpayments**

The total amount of outstanding overpayments again decreased during the year 1953-54. At March 31, 1954, the amount stood at \$324,336.54, as against \$334,852.00 at March 31, 1953. The fact that a steady decrease in the total overpayments has been maintained in the last several years, even though many hundreds of millions of dollars are paid out in Family Allowances each year is a source of considerable gratification. Table 22, appended hereto, gives a break-down by categories of the outstanding overpayments at March 31, 1954.

## **OLD AGE SECURITY**

### **General**

A total of 716,399 pensioners received payment of Old Age Security pensions in the month of March, 1954. Total net payments for that month amounted to \$28,607,458. There was, therefore, an increase of 30,272 in the number of pensioners in pay, and an increase of \$1,179,133 in expenditures

over those in the month of March, 1953. Total net payments for the fiscal year 1953-54 were \$338,970,791. Table 23, appended hereto, gives more detailed statistics on payments of Old Age Security pensions.

### **Proof of Age**

While in a small percentage of cases some difficulty in obtaining proof of age was experienced, generally speaking this was not a great problem during the past year. The persons who reached age seventy and applied for Old Age Security during the past year were, as a rule, in a better position to procure verification of their age than those original applicants who were considerably more than seventy years of age at the inception of Old Age Security. This is due to improvements in recording of births in the year of their birth as compared to earlier years. It is expected that this condition will improve progressively with succeeding years. In addition, experience has made the members of this Division more adept at assisting applicants, where necessary, in obtaining proof of age, and improved procedures in this connection have facilitated their efforts.

Despite all this, there were cases dealt with during the year where every effort to procure acceptable evidence of age failed, and where Regional Directors decided to have recourse to tribunals to consider the age of the applicant, as provided for in the Old Age Security Regulations. These tribunals, consisting of a member appointed by the applicant, a member appointed by the Director and a chairman chosen by these two members, consider the evidence of age available, and may take into account other facts or evidence. Almost without exception, the applicant is interviewed by the tribunal members. After considering all factors, the members of the tribunal give an opinion as to the age of the applicant, which is accepted by the Director, subject to receipt of rebutting evidence at any time thereafter.

During the year 1953-54, tribunals were held in 767 cases. In 542 cases, the decision was favourable to the applicant, that is, he was found to be of the age claimed or, if found to be younger, payment of Old Age Security was not affected. In 225 cases, the decision was unfavourable, in that the applicant was found younger than claimed and this finding affected payment of Old Age Security, or the tribunal was unable to reach a decision as to the age of the applicant.

### **Administration of Pensions**

The provision in the Old Age Security legislation which permits the Director to authorize payment of a pension to a trustee on behalf of a pensioner who is found to be incapable of managing his own affairs was given a strictly limited application in the past year, as has been the case since the inception of Old Age Security. Careful appraisal was given to the evidence of incapability in each case of this type, and the policy was adhered to of not diverting a pension from the pensioner to a trustee unless the evidence satisfies the Director that, by reason of infirmity, illness, insanity or other cause, the pensioner is incapable of managing his own affairs. At the close of the fiscal year, of 722,478 active accounts held in Regional Offices, 15,108 or 2 per cent, were cases where pension was payable to a trustee. In March, 1953, of 691,386 active accounts, pension was payable to a trustee in 15,377 cases, or 2.2 per cent. Thus the percentage of cases where it was found necessary to divert the pension decreased slightly during the past year.

1953-54 was a year of continued expansion and consolidation of the two programs administered by the Division. The co-operation of the Chief Treasury Officer and his staff and of all members of the staff of this Division made possible the success attained in the year's operations.



TABLE 21

## NET FAMILY ALLOWANCES PAYMENTS—COMPARISON BY FISCAL YEARS

Province	1946-47	1947-48	1948-49	1949-50
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Newfoundland.....				9,747,030 00
Prince Edward Island....	2,192,044 00	2,256,477 00	2,295,286 00	2,411,291 00
Nova Scotia.....	13,358,417 07	14,207,957 82	14,515,131 00	15,291,614 07
New Brunswick.....	11,394,426 02	12,086,891 93	12,462,093 00	13,375,434 33
Quebec.....	82,389,966 72	87,157,243 46	89,304,108 45	95,901,763 15
Ontario.....	70,325,914 70	77,328,534 50	80,151,249 69	84,940,808 63
Manitoba.....	14,007,061 21	14,798,436 82	15,016,277 72	15,668,695 50
Saskatchewan.....	18,119,791 87	18,561,329 55	18,527,408 22	18,953,599 79
Alberta.....	17,159,488 00	18,181,662 50	18,695,325 00	19,822,386 97
British Columbia.....	15,722,045 50	18,012,188 75	19,347,836 58	20,813,661 00
Yukon and Northwest Territories.....	471,376 50	574,470 00	595,063 00	587,749 50
National.....	245,140,531 59	263,165,192 33	270,909,778 66	297,514,033 94

	1950-51	1951-52	1952-53	1953-54
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Newfoundland.....	10,224,103 00	10,613,908 00	11,038,874 49	11,497,719 33
Prince Edward Island....	2,467,257 00	2,495,987 00	2,522,830 00	2,558,097 00
Nova Scotia.....	15,660,003 27	15,949,540 73	16,297,169 05	16,716,374 00
New Brunswick.....	13,708,198 00	13,892,907 00	14,287,535 05	14,700,819 00
Quebec.....	99,558,247 04	102,883,811 56	107,084,124 36	111,441,301 49
Ontario.....	89,034,870 53	93,207,144 30	98,303,868 20	104,409,819 41
Manitoba.....	16,235,519 56	16,703,466 69	17,283,659 61	17,979,853 88
Saskatchewan.....	19,237,070 80	19,424,561 76	19,723,352 42	20,244,540 00
Alberta.....	20,762,273 29	21,573,429 99	22,575,583 60	23,958,080 50
British Columbia.....	21,952,569 36	23,063,542 85	24,399,858 81	25,904,496 28
Yukon and Northwest Territories.....	625,348 67	649,273 15	680,828 30	702,801 30
National.....	309,465,460 52	320,457,673 03	334,197,684 79	350,113,902 19



TABLE 22  
OVERPAYMENTS OF FAMILY ALLOWANCES

MARCH, 1954

(The Overpayments may have occurred at any time between July 1, 1945 and March 31, 1954)

Province	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments (Considered Uncollectable)		Total Overpayments Outstanding	
	Number of Accounts	Amount	Number of Accounts	Amount	Number of Accounts	Amount	Number of Accounts	Amount
		\$ cts.		\$ cts.		\$ cts.		\$ cts.
Newfoundland.....	50	1,288 00	45	781 50	19	371 36	114	2,440 86
Prince Edward Island.....	15	374 00	2	32 00	2	24 00	19	430 00
Nova Scotia.....	62	1,496 00	93	2,103 75	48	1,541 50	203	5,141 25
New Brunswick.....	39	776 00	94	3,849 00	194	8,166 50	327	12,791 50
Quebec.....	479	26,570 00	1,153	72,564 77	1,318	108,698 68	2,950	207,833 45
Ontario.....	138	5,678 00	753	19,540 56	517	22,275 30	1,408	47,493 86
Manitoba.....	33	1,454 00	81	1,473 75	72	3,463 00	186	6,390 75
Saskatchewan.....	70	2,580 00	102	2,692 23	73	4,265 30	245	9,537 53
Alberta.....	105	2,477 00	135	3,709 50	107	5,843 90	347	12,030 40
British Columbia.....	101	4,569 00	83	2,524 00	179	7,855 40	363	14,948 40
Northwest Territories and Yukon.....	25	2,017 00	47	2,093 22	19	1,188 32	91	5,298 54
National.....	1,117	49,279 00	2,538	111,364 28	2,548	163,693 26	6,253	324,336 54

TABLE 23  
STATISTICS ON OLD AGE SECURITY

Province	Number of Pensioners in Pay March, 1953	Net Payment for March, 1953 only	Number of Pensioners in Pay March, 1954	Net Payment for March, 1954 only	Total Net Payment for Fiscal Year Ended March 31, 1953	Total Net Payment for Fiscal Year Ended March 31, 1954
Newfoundland.....	14,792	\$ 592,600	15,343	\$ 614,780	\$ 6,995,760	\$ 7,242,820
Prince Edward Island.....	6,553	262,960	6,669	267,220	3,155,700	2,203,780
Nova Scotia.....	36,150	1,451,340	36,961	1,481,253	17,259,287	17,702,477
New Brunswick.....	25,689	1,030,720	26,288	1,054,943	12,254,680	12,006,600
Quebec.....	147,833	5,899,735	152,682	6,080,598	69,570,047	72,032,527
Ontario.....	253,954	10,174,060	264,831	10,596,735	120,083,015	125,775,222
Manitoba.....	40,489	1,621,520	42,592	1,702,804	19,019,960	20,052,895
Saskatchewan.....	40,553	1,633,680	42,505	1,710,400	19,037,306	20,111,120
Alberta.....	40,203	1,622,390	42,868	1,723,890	18,745,260	20,137,730
British Columbia.....	79,464	3,121,320	85,191	3,355,955	36,802,800	39,880,100
Northwest Territories and Yukon.....	447	18,000	469	18,880	217,840	225,520
National.....	686,127	27,428,325	716,399	28,607,458	323,141,655	338,370,791

## Old Age Assistance and Allowances for Blind Persons

### Old Age Assistance

There were no changes during the fiscal year 1953-54 in the plan providing assistance, subject to a means test, for persons 65 to 69 years of age. Under the authority of the Old Age Assistance Act, the Government of Canada has made agreements with the ten provinces, the Northwest Territories and the Yukon Territory. By the terms of the agreements the federal government contributes one-half of the cost of assistance paid by the provinces in accordance with provincial law to the persons and under the conditions specified in the Act and the regulations made thereunder.

The agreements, except the one with Newfoundland, specify a maximum amount of assistance of \$480 a year which is the maximum amount to which Canada can contribute its share of fifty per cent. The maximum assistance stipulated in the Newfoundland agreement is \$360 a year. In all agreements the maximum amounts of income allowed, including assistance, are the amounts specified in the Act. These are \$720 a year in the case of an unmarried person, \$1,200 a year in the case of a married person and \$1,320 a year in the case of a married person whose spouse is blind.

As at March 31, 1954, there were 93,273 recipients and the federal share of assistance for the fiscal year was \$20,288,152.60. The number of recipients as at March 31, 1953 was 87,675 and the federal expenditure for the fiscal year 1952-53 was \$19,128,837.37.

While the Old Age Assistance Act has not been in operation long enough to warrant any definite conclusions, the relatively small number of recipients indicates that, for the present at least, the need within the age group 65 to 69 is not as great as was thought at the time old age assistance was recommended by a parliamentary committee. The estimated population 65 to 69 years of age as at June 1, 1953 was 444,600. Recipients of assistance as at March 31, 1954 represented about 21 per cent of this number. The present total federal and provincial expenditure of about \$40,600,000 a year is still substantially less than the amount of \$64,000,000 estimated as the yearly expenditure at the time the parliamentary committee made its recommendation.

The transfer to old age security of recipients who attain the age of seventy years has a marked effect on the number of recipients of old age assistance. A universal pension at the age of seventy years was an entirely new feature in the old age pension scheme and it was probably not realized at the time the parliamentary committee met, to what extent old age assistance would be affected by transfers. For the fiscal year 1952-53 the number of transfers to old age security was 13,534. For the fiscal year 1953-54 the number was 18,392. The latter figure indicates that each year approximately one-fifth of the total number of recipients may be transferred to old age security. The number reaching the age of seventy years in any particular year depends upon the number applying at different ages in previous years. Provincial statistics show that, in an increasing proportion of cases, old age assistance is granted at the age of sixty-five years.

### Allowances for Blind Persons

Allowances for blind persons are provided under a plan similar to the one for old age assistance. During the fiscal year 1953-54 there were no changes in the plan nor in the agreements made by the Government of Canada under

the authority of the Blind Persons Act with the ten provinces and the two territories. All agreements provide for the payment of a maximum allowance of \$480 a year and for the maximum amounts of income, including allowance, specified in the Act. The provinces pay twenty-five per cent of the cost of allowances and the federal government, seventy-five per cent.

The provincial authorities are responsible for establishing that each applicant has attained the age of twenty-one years, has resided in Canada for ten years or longer where necessary and, if he has income, that the income and allowance do not exceed \$840 a year if the applicant is unmarried, \$1,040 a year if he is unmarried with a dependent child, \$1,320 a year if he is married and \$1,440 a year if he is married to a blind spouse. Federal authorities are responsible for certifying that each applicant is or is not blind within the meaning of the Act. The medical examinations are made by oculists employed and paid by the federal government. All certificates are issued by the Chief of the Blindness Control Division in the Health Branch of the Department.

There is little variation from year to year in the number of recipients of blindness allowances. As at March 31, 1954, there were 8,214 persons receiving allowances as compared with 8,332 as at March 31, 1953 and 8,079 as at March 31, 1952. When recipients reach the age of seventy years they are entitled to receive old age security and, it is mainly on account of transfers to old age security that the number of recipients shows little change. In the fiscal year 1953-54, there were 411 recipients transferred to old age security. The number in the fiscal year 1952-53 was 446.

In view of the fact that blindness is more prevalent among older persons, it may be assumed that a substantial number of blind persons are now receiving federal pensions under the Old Age Security Act. As at January 1, 1952, there were 3,212 persons, to whom pensions in respect of blindness had been granted under the Old Age Pensions Act, transferred to the administration of old age security. This number was about twenty-eight per cent of all blind persons receiving pension subject to a means test prior to the coming into force of the Old Age Security Act.

Federal expenditure for the fiscal year 1953-54 was \$2,914,102.07. This was lower than the expenditure of \$2,985,217.00 for the fiscal year 1952-53.

### Old Age Pensions

It is provided by section 13 (2) of the Old Age Security Act that the Old Age Pensions Act is repealed on a day to be fixed by proclamation of the Governor in Council. By a proclamation dated March 31, 1954, the Act was repealed upon, from and after March 31, 1954. The proclamation was published in The Canada Gazette on April 3, 1954.

Regular payments under the Old Age Pensions Act ceased as of December 31, 1951. The Old Age Security Act, the Old Age Assistance Act and the Blind Persons Act came into operation on January 1, 1952.

Table 24, page 110, shows the amounts paid for old age assistance by the Government of Canada under the Old Age Assistance Act for the fiscal year 1953-54 and relevant statistical information.

Table 25, page 110, shows the amounts paid for blindness allowance by the Government of Canada under the Blind Persons Act for the fiscal year 1953-54 and relevant statistical information.



TABLE 24

(Old Age Assistance Division)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES

FOR THE FISCAL YEAR 1953-54

Province	Number of Recipients	Average Monthly Assistance	Federal Payments 1953-54
		\$ cts.	\$ cts.
Alberta.....	5,014	36 60	1,107,190 01
British Columbia.....	8,144	37 72	1,863,051 68
Manitoba.....	4,838	37 77	1,112,322 18
New Brunswick.....	5,756	36 93	1,248,339 19
Newfoundland.....	5,124	29 21	896,428 59
Nova Scotia.....	5,173	33 47	1,028,756 25
Ontario.....	21,587	36 83	4,726,152 91
Prince Edward Island.....	594	25 88	85,985 94
Quebec.....	32,391	37 50	7,187,259 43
Saskatchewan.....	4,584	36 71	1,017,535 28
Northwest Territories.....	64	38 40	14,251 14
Yukon Territory.....	4	40 00	880 00
Total.....	93,273		20,288,152 60

TABLE 25

(Old Age Assistance Division)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES

FOR THE FISCAL YEAR 1953-54

Province	Number of Recipients	Average Monthly Allowance	Federal Payments 1953-54
		\$ cts.	\$ cts.
Alberta.....	400	38 57	135,585 97
British Columbia.....	488	39 20	174,964 30
Manitoba.....	411	38 92	148,244 15
New Brunswick.....	731	39 49	263,725 96
Newfoundland.....	336	39 49	121,952 16
Nova Scotia.....	718	38 35	250,566 53
Ontario.....	1,710	38 70	602,041 45
Prince Edward Island.....	90	37 12	28,126 12
Quebec.....	2,949	38 96	1,057,841 80
Saskatchewan.....	366	38 73	125,796 13
Northwest Territories.....	13	39 23	4,537 50
Yukon Territory.....	2	40 00	720 00
Total.....	8,214		2,914,102 07

## Physical Fitness

The Physical Fitness Division continued to act as the agency for administering the fitness and recreation services made available under the terms of the National Physical Fitness Act. The position of National Director remained vacant during the current fiscal year.

During the fiscal year 1953-54, in accordance with agreements entered into by the provincial departments concerned, the Provinces of Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Saskatchewan and the Northwest Territories co-operated with the federal government under the terms of the National Physical Fitness Act.

### Administration

The Division continued to provide a variety of professional consultative and informational services for the assistance of provincial government departments and national organizations. It acted as a clearing house for the dissemination of information on recreation, fitness, physical education, community centres, drama, sports, the organization and administration of community and specialized programs, and related matters. The actual organization and direction of recreation and fitness projects continued to be a provincial and local responsibility, and consequently the Division did not operate an activity program. Liaison has been developed and maintained with provincial governments, national associations, other countries, and with the Commonwealth in particular, thus facilitating an exchange of publications and information on the latest developments at home and abroad.

The National Physical Fitness Act (1943) made the sum of \$225,000 available annually, on a matching per capita basis, to the provinces for the promotion of fitness and recreation. In 1949, on the entry of Newfoundland into Confederation, an additional sum of \$7,000 was made available for grant purposes.

During the fiscal year 1953-54, a total of \$170,195.50 was paid in respect of financial assistance to the provinces. Of this sum, \$89,261.25 consisted of late payments for 1952-53. Late claims have yet to be paid to the Province of Ontario (\$76,136.50) and to the Province of Saskatchewan (\$3,443.38) in respect to the fiscal year 1953-54. The total amount of federal grant expended in respect to 1953-54 was \$80,934.25. An additional sum of \$79,579.88 will be required for late payments in respect to 1953-54. This will bring federal assistance in respect to 1953-54 to a total of \$160,514.13.

The total provincial expenditures on Fitness and Recreation programs in 1953-54 amounted to \$945,033.55, which sum includes the amount of financial assistance provided under the terms of the Act. The net provincial expenditure in all instances exceeded the amount necessary to match the available Federal grant. In four out of the eight participating administrations, net provincial expenditures have increased since the previous fiscal year. The total sum available for the administration of the Division during the current fiscal year was \$82,741.44, which included an appropriation of \$81,244 for the Division and a balance in the National Physical Fitness Fund carried forward from the previous fiscal year of \$1,517.44. This balance was fully expended prior to April 1st, 1954.

## **Scholarships**

Annual scholarships for advanced training in physical education and recreation were set up in 1948, as a means of overcoming the shortage of adequately trained key personnel in these fields. Since then, thirty-two persons have been assisted in obtaining post-graduate training, including five scholarships awarded for the year 1953-54.

## **Informational Materials**

Information relevant to fitness, recreation, physical education, cultural activities, community centres, reports on new projects and research in Canada and other countries, new procedures and developments, have been issued in bulletin form to provincial fitness and recreation offices and on request. During the year the total number of items distributed was 124,220.

The new policy of placing some informational materials on a "for-sale" basis was introduced during the latter part of the fiscal year. Correspondence received from various provinces indicate that this policy has been well received. Its chief value lies in the fact that it is now possible to obtain a sufficient number of copies of any one publication to carry on the work in that particular activity.

Study-Kits have been prepared for the use of adult groups scheduling discussion periods on child development. More than 1,700 local groups included this item on their program for 1953-54.

## **Preview Film Library Services**

This service was partially resumed during the last six months of the fiscal year due to the appointment to the staff of a reference assistant. Ten regular film blocks and one special block of loop films were circulated to the provinces, a total of 34 films, 25 filmstrips and 32 loop films. These were screened by thirty-five provincial screening committees across the country. This represents an increase of approximately 60 per cent in the use of such blocks. On completion of the provincial screening circuit, the visual aids are deposited with the Canadian Film Institute and are available to organizations on a "preview-with-a-view-to-purchase" basis at a nominal service charge.

## **National Council on Physical Fitness**

The National Council on Physical Fitness, established by Act of Parliament, Chapter 29 of the Statutes of Canada, 1943, assented to July 24th and proclaimed October 1st, 1943, was charged with the responsibility of promoting the fitness of the people of Canada.

## **Canadian Advisory Committee on Aquatics**

At its eighteenth meeting in April, 1952, the Council decided to establish a Canadian Advisory Committee on Aquatics, and approved its terms of reference. The nine-member committee was given a wide scope for study. Its recommendations and reports must obtain Council approval prior to release and/or implementation. The Council did not accept any financial obligation regarding the committee's expenses. Four meetings of the Committee were held in 1953-54, and its work is nearing completion.

Statistics relating to Physical Fitness will be found in Tables 26, 27, 28 and 29, pages 113, 114, 115 and 116.

TABLE 26  
SUMMARY OF FINANCIAL ASSISTANCE TO PROVINCES—NATIONAL PHYSICAL FITNESS ACT

Province	Population 1951 Census	Amount of grant (b) available	Payment of Grants according to Fiscal Year (a)											
			1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1944-54	
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
P.E.I. (d).....	98,429	1,630 00			774 49* 1,861 00		2,323 75* 1,861 00	1,858 50	1,858 50	1,858 50			12,395 74	
N.S.....	612,584	10,641 25	7,418 43	6,747 50	2,409 40* 10,077 08	8,685 40	11,001 98	11,426 92	10,415 36	9,260 69	10,940 57	10,641 25	102,024 58	
N.B.....	515,697	8,540 00				2,186 86	6,280 65	8,943 75	6,771 84	8,412 32	8,540 00	8,540 00	49,675 42	
P.Q. (d).....	4,055,681	67,103 25												
Ont.....	4,597,542	76,136 50												
Man.....	776,541	12,859 75		2,692 41*	7,484 92*	7,933 66*	5,997 81*	7,237 93*	8,250 97*	9,573 45*	13,125 96*	12,859 75* 12,859 75*	88,016 67	
Sask.....	831,728	13,773 50		17,044 65*	17,515 75*	17,545 75*	17,520 75	17,520 75	17,520 75	17,520 75	13,773 50	13,773 50 3,413 38*	167,311 90	
Alta.....	939,501	15,558 50		15,088 76* 7,981 77	15,515 61	19,488 12	11,671 79	16,463 71	15,567 75	15,567 75	15,558 50	15,558 50	151,462 26	
B.C.....	1,165,210	19,296 25	16,015 75		16,015 75* 16,015 75	16,015 75	15,993 00	15,993 00	15,993 00	15,993 00	19,296 25	19,296 25	166,627 50	
N.W.T.....	16,004	265 00				234 00	234 00	234 00	234 00		234 00*	265 00* 265 00	1,700 00	
Yukon (d).....	9,096	150 75												
Nfld. (d).....	361,416	5,985 25												
Totals	14,099,429	232,000 00	23,431 18	49,555 12	87,699 75	89,635 29	78,984 76	79,678 56	150,675 42	152,249 71	155,532 03	170,195 50	1,037,540 32 (e)	

(a) Payments made in any one fiscal year may include payments in respect of previous years.  
 (b) Initially, the sum of \$225,000.00 was pro-rated on a per capita basis for nine provinces. Later the amounts were re-calculated on the basis of nine provinces and two territories. When Newfoundland entered Confederation, an additional \$7,000.00 was made available for that province. In 1952, re-calculations were based on the 1951 census and \$232,000.00.

(c) As agreements were renewed, the periods of agreement were changed to coincide with the fiscal year. This necessitated making agreements for periods other than twelve months in some cases.  
 (d) These provinces do not participate at the present time.  
 (e) This Saskatchewan total is for 1953-54.  
 \*—Payment for claim of previous fiscal year.  
 g—Claim for 1953-54 not received prior to April 30, 1954.



TABLE 27  
ASSISTANCE TO PROVINCES AND PROVINCIAL EXPENDITURES UNDER NATIONAL PHYSICAL FITNESS ACT,  
RELATING TO 1953-54

Province	Department Responsible for Administration	Expiration of Current Agreement <sup>(3)</sup>	TOTAL EXPENDITURES			Population 1951 Census	PER CAPITA EXPENDITURES				
			Provincial		Federal		Provincial	Federal	Total		
			\$	cts.	\$		cts.	\$	cts.		
Nova Scotia.....	Dept. of Education, Halifax	31 March, 1954	19,060 02		10,641 25		29,701 27	642,584	.0298	.0165	.0463
New Brunswick....	Dept. of Education, Fredericton	31 March, 1954	14,802 85		8,540 00		23,342 85	515,697	.0287	.0165	.0452
Ontario.....	Dept. of Education, Toronto	31 March, 1954	539,510 34		76,136 50 <sup>(2)</sup> 76,136 50 <sup>(1)</sup>		615,646 84	4,579,542	.1173	.0165	.1338
Manitoba.....	Dept. of Health and Public Welfare, Winnipeg	31 March, 1954	14,297 18		12,859 75 12,859 75 <sup>(1)</sup>		27,156 93	776,541	.0184	.0165	.0349
Saskatchewan.....	Dept. of Education, Regina	31 March, 1954	54,675 06		13,773 50 3,443 38 <sup>(1)</sup>		68,448 56	831,728	.0657	.0165	.0822 <sup>(5)</sup>
Alberta.....	Dept. of Education, Edmonton	31 March, 1954	31,569 09		15,558 50		47,127 59	939,501	.0336	.0165	.0501
British Columbia...	Dept. of Education, Victoria	31 March, 1954	74,768 00		19,298 25		94,066 00	1,165,210	.0641	.0165	.0806
Northwest Territories	Dept. of Northern Affairs and National Resources, Ottawa	31 March, 1954	35,836 88		265 00 265 00 <sup>(1)</sup>		36,101 88	16,004	2.2392	.0165	2.2557

NOTE:

(1) Late payment for 1952-53 not included in summary of per capita expenditures for 1953-54.

(2) Payment on late submission for 1953-54, in process.

(3) Agreements are in process of renewal for 1954-55.

(4) Payment in process. Adjustment from calendar to fiscal year in agreement.

(5) Total expenditure including unpaid federal grant.

TABLE 28

SUMMARY OF ALLOTMENTS AND EXPENDITURES PHYSICAL FITNESS DIVISION FOR THE FISCAL YEAR 1953-54  
ADMINISTRATION

	PHYSICAL FITNESS DIV. APPROPRIATION	NAT. FITNESS FUND
Balance from fiscal year 1952-53.....		\$ 1,517 44
Parliamentary Appropriations 1953-54.....	\$ 81,224 00	
EXPENDITURES—1953-54		
Total Salaries.....	\$26,985 25	
Professional and Special Services.....	3,870 00	
Travelling Expenses—Staff.....	4,300 20	
Freight, Express and Cartage.....	803 52	
Postage.....	30 32	
Telephones and Telegrams.....	596 96	
Printing of Educational, Informational and Other Publications.....	15,020 33	
Educational and Informational Material Other than Publications.....	3,315 22	\$ 808 32
Office Stationery, Supplies and Equipment.....	1,740 85	
Travelling Expenses—Council Members and Others.....		709 12
Sundries.....	336 41	
	\$ 56,999 06	1,517 44
Balance at end of fiscal year 1953-54.....	\$ 24,224 94	0,000 00
Balance from fiscal year 1952-53.....		\$ 95,733 36***
Parliamentary Appropriations 1953-54.....		150,000 00
Total funds available for grant purposes.....		245,733 36
EXPENDITURES—1953-54		
Nova Scotia.....	\$ 10,641 25	
New Brunswick.....	8,540 00	
Ontario.....	76,136 50*	
Manitoba.....	23,719 50**	
Saskatchewan.....	13,773 50	
Alberta.....	15,558 50	
British Columbia.....	19,296 25	
Northwest Territories.....	530 00**	
		\$170,195 50
Unexpended Balance.....		75,537 86
Total unliquidated commitments 1953-54.....		79,579 88*
Deficit at end of fiscal year 1953-54.....		4,042 02
NOTES:		
*Late payment for 1952-53—Submission for 1953-54 not received prior to Mar. 31, 1954.		\$76,136 50
**Includes payment for 1952-53 and 1953-54.		3,443 38
***Includes unliquidated encumbrances for 1952-53.		79,579 88
Total unliquidated commitments.....		

TABLE 29  
SUMMARY OF PROVINCIAL EXPENDITURES, EXCLUSIVE OF FEDERAL FITNESS GRANTS PER FISCAL YEAR

Province	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	Total 1944-54
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
P.E.I.....		774 49	1,861 00	11,052 03	18,125 73	8,141 48	11,166 50	14,673 40			65,794 63
N.S.....	7,418 43	9,156 90	10,077 08	22,847 13	16,225 97	22,836 69	12,636 61	9,047 15	13,957 19	19,060 02	143,263 17
N.B.....				4,373 71	6,280 63	11,963 39	9,438 21	22,149 22	16,308 30	14,802 85	85,366 31
Ont.....						372,736 75	464,408 79	390,587 22	596,622 14	539,510 34	2,373,925 24
Man.....	7,217 23	7,535 34	8,318 87	11,995 68	8,522 45	8,689 93	12,237 29	13,639 46	15,331 02	14,297 18	107,784 45
Sask.....	17,044 64	37,212 93	39,960 82	56,901 96	30,999 29	29,211 83	29,293 29	38,307 75	45,840 22	54,675 06	379,447 79
Alta.....	16,840 62	23,446 85	26,072 40	57,374 70	16,185 70	27,002 73	34,682 63	42,531 67	28,284 66	31,569 09	303,991 05
B.C.....	30,810 54	44,469 59	56,242 75	87,721 85	85,606 90	101,007 00	94,805 28	115,478 41	124,916 60	74,768 00	815,826 92
N.W.T.....				21,000 00	24,766 00	5,743 05	13,316 00	23,003 67	29,000 94	35,836 88	152,666 54

NOTE:

The Provinces of Quebec and Newfoundland and the Yukon Territories have not participated in the National Physical Fitness Program.

# CIVIL DEFENCE

## General

The function of Civil Defence is to minimize the effects of disaster upon the population of Canada and the property of the Canadian people. The accepted responsibility of the federal government in Civil Defence is that of a guiding, directing and co-ordinating agency to insure that planning for Civil Defence is efficiently integrated at federal, provincial and municipal levels.

To this end, Federal Civil Defence authorities continued to press forward during the fiscal year 1953-54 on all phases of Civil Defence activities. The tempo of training of federal, provincial and municipal Civil Defence instructors was stepped up. Training equipment and supplies continued to be issued on a "free-issue" basis to the provinces. The Health Planning group continued to develop organizational, functional and operational plans essential in the event of a national disaster. Continued assistance was given to provinces and communities in establishing their Civil Defence Welfare Service Organizations. Considerable progress was made during the year with respect to warning and communication facilities.

During the year 1953-54, British Columbia and Alberta signed Compensation Agreements with the federal government permitting compensation to be made for injury or death to Civil Defence workers during training on a matching basis.

Expenditures by the federal government on the Civil Defence Financial Assistance Program amounted to \$322,000, during the year, approximately \$90,000, more than was spent for this purpose in the previous year, with British Columbia, Alberta, Saskatchewan, Manitoba, Nova Scotia and Newfoundland participating.

A federal plan to operate a Canadian Civil Defence College at Arnprior, Ontario, materialized and the College began operations on the 27th January 1954. Instructional courses began immediately and the College was officially opened 29th March 1954, by the Minister of National Revenue.

## Training

Provincial Civil Defence authorities continued to take full advantage of Civil Defence courses, made available at federal expense to the limit of facilities. In January 1954 Federal facilities for training were supplemented considerably by the opening of the Canadian Civil Defence College at Arnprior, Ontario. Additional key instructional staff is continuously being selected and appointed to the College. In addition, the facilities of the Royal Canadian Army Medical Corps School at Camp Borden, the U.S. Staff College and the United Kingdom Staff College were utilized to the fullest extent.

During the year under review Civil Defence courses included Staff Forums, Rescue, Welfare, Senior Warden, Tactical, Police and Fire Fighting. Fifty-five persons attended courses at the R.C.A.M.C. School, Camp Borden on ABC Defence, 20 at the U.S. Staff College and seven at the U. K. Staff College. In all a total of 582 candidates received Civil Defence training at federal expense. In addition, the first Civil Defence Transportation Forum was held in Ottawa with all provinces represented. However, with a gradual increase in the



instructional staff at the College, together with the added training facilities and accommodation, it is estimated that 1,700 Civil Defence specialists may be trained during the coming fiscal year.

Of particular interest, two Police Forums were conducted at Arnprior in February and March 1954 at which a total of 76 Chief Constables or their deputies gathered to discuss Civil Defence procedures and technique.

### Civil Service Civil Defence (Ottawa)

During the year 1953-54, 1470 Civil Service personnel received training in various phases of civil defence. This brings the total trained to date to 4,470, of which 2,800 are grouped in active Civil Defence teams throughout 137 buildings at Ottawa. Nine hundred and ninety-six persons attended a seven week indoctrination Course for those who had never before been trained in Civil Defence techniques and 700 persons qualified and were issued with proficiency certificates in First Aid, Fire Fighting, Police and Warden courses. Fifty-seven emergency evacuation drills were held throughout the federal buildings at Ottawa and 40 trainees were certified proficient in rescue skills. Eighty Civil Servants were fully qualified with respect to the handling and using of all items of fire-fighting equipment with which federal buildings are equipped

Government buildings at Ottawa have been surveyed with respect to shelter plans, means of evacuation and existing alarm systems.

### Supplies and Equipment

Set up hereunder is a break-down by provinces of supplies and equipment donated by the Federal Government during the year at a cost of \$642,200.18.

<i>Provinces</i>	<i>Actual Cost</i>
British Columbia .....	\$112,389.06
Alberta .....	66,534.44
Saskatchewan .....	30,283.22
Manitoba .....	53,011.50
Ontario .....	198,004.98
Quebec .....	85,820.43
New Brunswick .....	26,920.21
Nova Scotia .....	47,608.07
Prince Edward Island .....	1,154.63
Newfoundland .....	20,473.64
	<hr/>
	\$642,200.18

The total value of "free issue" to the provinces since the inception of this Program now amounts to \$1,156,578.00.

Items of issue included rubber boots and coats, fire pumpers, incendiary bombs, radiological detection instruments, reconnaissance ABC kits, air raid sirens and controls, rescue trucks and equipment, coveralls, haversacks, helmets and stretchers.

## Health Planning

During the year, the Civil Defence Health Planning Group continued the development of organizational, functional and operational plans for the various aspects of Civil Defence health service work at all levels in Canada. New aspects of health services planning were developed in collaboration with working parties consisting of those persons in Canada considered to be best informed on the subject concerned. Also through this method, working parties were again called in and consulted with respect to the revision of earlier plans subsequently tested through practical application or requiring final amendment as the result of developments in the medical and other scientific fields.

New working parties, organized during the year, included those on the handling of essential medical supplies, on the role of the pharmacist in Civil Defence, on the broad aspects of transportation as it affects health services planning, and on hospital and laboratory equipment.

Additional numbers of Canadian physicians, selected by provincial Civil Defence Health Services authorities, attended courses at Camp Borden conducted by the Department of National Defence on the subject of ABC Warfare defence. By the end of the year a total of 258 doctors had received this training. At the year end also, civil defence nursing had been added to the curricula for student nurses in five of the provinces, and the number of active, retired and married nurses trained in the civil defence aspects of nursing had increased to 28,000. Home-nursing training conducted by the Red Cross Society and the St. John's Ambulance Association was extended during the year to more rural areas and included a four-hour course on Civil Defence. Arrangements were made also whereby selected home-nursing students would receive as much as 44-hours of hospital experience.

A new elementary first-aid pamphlet entitled "Emergency First-Aid" was published for wide distribution to the public through schools and universities, national and provincial associations and Civil Defence organizations.

The progressive program of essential medical supplies stock-piling was continued during the year. By March 31, orders had been placed for such supplies to the total value of \$2,750,000 and satisfactory progress had been made towards the development of packaging and marking procedures preparatory to the lodgment of these supplies in mobile operational units in regional storage across the country.

## Welfare Services

During the year 1953-54, five welfare courses were conducted, pamphlets, booklets and training aids prepared and assistance given to provinces and communities in establishing their Civil Defence Welfare Services organizations.

Two Forums were organized specifically for key personnel of national organizations and agencies. Sixty-two people attended, representing 30 different national groups. Subsequently some of the larger organizations (including the Salvation Army, the I.O.D.E., the Catholic Women's League, and the Federated Women's Institutes) appointed provincial, and in some cases, municipal Civil Defence Liaison Officers. This is considered to be one of the more important developments of the year.

Seventy-six candidates attended two courses of a general welfare nature designed for those responsible for assisting in organizing Civil Defence Welfare Services at the local level.

Specialist courses in emergency clothing, feeding, lodging, registration and inquiry, were designed to assist communities in Civil Defence Welfare Services. The first of these, emergency clothing, believed to be the first of its kind in North America, was held in February 1954. Written material included a technical manual on emergency feeding, emergency clothing and on Welfare Services training. British Columbia, Alberta and Manitoba conducted Welfare Courses and were given direct assistance by Federal Headquarters. A similar offer of assistance was made to all other provinces.

With the assistance of the National Film Board, two filmstrips on emergency feeding were completed and three on emergency clothing are progressing satisfactorily.

Continuous liaison was maintained through the year with both U.S. and U.K. officials responsible for Civil Defence Welfare Services in their respective countries.

### **Warning and Communications**

The Civil Defence Warning System, established in previous years to enable dissemination of warnings from Air Defence Control Centres to Civil Defence Key Points in target areas, was supplemented by a direct private line from a United States Air Defence Control Centre into Winnipeg Key Points. This, together with the installation of a direct line from ADCC to the St. John's, Newfoundland, Key Point, completed all the Civil Defence warning system network initially envisaged. Certain Warning System lines were relocated resulting from the move of two Air Defence Control Centres to permanent quarters. Regular maintenance tests were conducted over all Civil Defence warning system lines during the year.

One hundred Universal type sirens were purchased and when installed will bring the total installation to 400. Cost to the federal government is approximately \$282,000. With the co-operation of the National Research Council, cold room tests and investigation of siren operation under adverse conditions, were conducted.

Test specifications for modified radio sets were drawn up and arrangements made with the Department of Transport for testing proto-type sets that were modified. Arrangements also were made for prototype modifications to types No. 19 and No. 48 radio sets. A manual covering "Communications Operating Procedures" and a guide for planning a "Civil Defence Radio Service" was prepared and published; a communications manual was prepared and distributed for use as a guide for the over-all arrangement and estimated requirements for civil defence communications at all levels.

Mobile communication centres were given special attention with respect to research and design. Radio licencing, call signs, and frequencies for civil defence purposes were under constant study and moved steadily towards a solution. Plans for "Controlled Operation of Broadcast Services" were investigated and experimental arrangements developed. Action was initiated to develop material procedures with respect to a "Civil Defence Communications Course".

Liaison was maintained with Air Defence Command, the Canadian Army, the Royal Canadian Air Force and the Ground Observer Corps, as well as with the United States Federal Civil Defence Administration Warning and Communications Division and FCDA Operations Division, including several United States/Canada working groups and committees.

A "Standard Operating Procedures" was prepared for use at federal level together with "Warden Report Message" and other forms required in connection with the operation of communications services and message handling.

## Transportation

Activities of the federal Civil Defence Transportation Committee have consisted mainly of a study of the overall transportation problems which would arise in the event of disaster. These include transportation of supplies, material and personnel to back up resources of the provinces and municipalities concerned.

A Director of Transport was recently appointed and will assume his responsibilities 1st June 1954.

To encourage enrolment of motor vehicles for Civil Defence, approximately 50,000 vehicle registration stickers have been issued to provinces to be placed on privately owned or commercial vehicles after they have been registered for use in a national emergency.

## Information Services

Every effort was made to ensure that all provinces were advised of new ideas and new developments in the Civil Defence field, and close liaison was maintained in the distribution of information material. This service is represented on the Joint U.S./Canada committees and much useful information has been exchanged between the two countries.

Over one million copies of informational material have been distributed on such subjects as "The Effects of Atomic Bomb Explosion on Structures and Personnel", "Personal Protection under Atomic Attack", "Basic First Aid", "First Aid and Home Nursing", "Hospital Services and Casualty Records", "Health and Welfare Services in Canada's Civil Defence Program", "Emergency Feeding", "Nursing Aspects of ABC Warfare".

A major undertaking of the year was the massive "On Guard Canada" exhibit undertaken jointly by the Civil Defence Division and Information Services Division. Consisting of a giant display of all phases of Civil Defence, the exhibit travelled by highway convoy more than 10,000 miles and gave showings in Montreal, Regina, Calgary, Vancouver, Edmonton, Saskatoon, Winnipeg, Windsor, Halifax and Saint John. All showings were held in co-operation with provincial and municipal civil defence officials.

A Civil Defence radio presentation entitled "Bombed Out" has been completed and released to 105 private stations across Canada. In addition a number of short Civil Defence broadcasts have been prepared and carried over the CBC network and local stations.

Over 500 films and filmstrips have been supplied to the provinces on such subjects as "A new Fire Bomb", "Introduction to Radiation Detection Instruments", "Atomic Energy", "Chemistry of Fire", "Disaster Control". "Fire-Fighting for Householders", "First Aid on the Spot", "Medical Effects of the Atomic Bomb", "Methods of Rescue", etc.

Full scale Civil Defence exhibits have been designed and constructed for use at exhibitions in various parts of Canada and the U.S. In addition, smaller panel displays, which can be utilized in areas of various sizes, have been designed and distributed.

## Co-ordination and Co-operation with Provincial Authorities

Each of the provinces has accepted responsibility in regard to Civil Defence to a greater or lesser degree. Some realize fully the need for complete co-operation between the federal Civil Defence authorities and with the Civil Defence authorities within their own municipalities.



Generally speaking, co-ordination and co-operation between Federal and Provincial authority must be considered extremely good. Each province has developed its own Civil Defence organization, patterned on that of the Federal Government. Certain provinces have conducted Civil Defence training courses similar to those of the Federal Government with the object of training local instructors and key personnel.

### **Co-operation with United States and Other Countries**

Close co-operation and liaison is being maintained between the United States, the United Kingdom, and other countries, especially those within the membership of the Northern Atlantic Treaty Organization. A number of federal and provincial officials have attended special courses in the United Kingdom and the United States and a continual interchange of information is being passed between these countries and Canada, as well as between Provinces and States.

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## ADMINISTRATION BRANCH

The Administration Branch serves the entire Department both across Canada and overseas, and further development of departmental measures in many fields during the past year tended to make increasing demands upon it.

Reports follow of activities of the Departmental Secretary's, Information Services, Legal, Library, Personnel, Purchasing and Supply and Research Divisions.

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### Departmental Secretary's Division

Responsibilities of the Departmental Secretary's Division continued to fall into two broad classes—those which the Departmental Secretary carried out personally and those which were carried out largely by the staff of the Division.

Included among the first group were (a) acting as financial adviser to the Department in respect of many aspects of its work; (b) assisting the Minister and the Deputy Ministers in the long and complicated procedure related to the preparation and approval of the departmental estimates from the time they were first drafted until they were approved by Parliament; (c) acting as the Deputy Ministers' substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfers between allotments, submissions to Council and to Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament; and (e) carrying out many special projects which were assigned from time to time.

The second group of responsibilities were borne by the various Sections of the Division as follows:

The Registry Services carried out all phases of the work relating to the custody and circulation of the Department official records. This involved the operation of a central registry and eight sub-registries in Ottawa, and the provision of advice, assistance and a certain degree of supervision in respect of records in many departmental establishments across Canada. The complete reorganization and standardization of the file system and related procedures in field establishments of the Food and Drug Divisions was completed. New or completely revised file series were also created for a number of other Divisions. Mail, messenger and truck services at Head Offices continued to be provided by this Section.

The Accounts and Estimates Section continued to assist in providing financial advisory assistance to the Department and relieving Directors and Chiefs of the burden of maintaining accounting records and of routine administrative duties related to financial matters. This Section also carried out much of the detail involved in the preparation of departmental estimates and continued to act as liaison between the Department and the Treasury Office serving it.

The work of the Correspondence Section consisted largely of preparing replies to the many thousands of letters and enquiries which were received on a wide range of health and welfare subjects.

Large quantities of booklets, leaflets and other documents continued to be reproduced in the Duplicating Section. Over 17,500,000 duplicating impressions were produced, representing a 17 per cent increase over the previous year, and the many related operations increased accordingly.

The Secretarial Services again provided a central source of stenographic and typing assistance to the entire Department in Ottawa. As well, all typing and mat work required in preparing material for reproduction in the Duplicating Section was done by the Secretarial Services. Varsity facilities were also available.

In addition, the Departmental Secretary's Office continued to act as centre for information for the whole Department and to carry out the wide range of duties which normally fall to the lot of the secretariat of a large organization.

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## Information Services Division

While continuing to act as main production agency and clearing house for government health publications and other informational materials, as requested by the Provinces, the Information Services Division was active this year in special measures designed to make the department's activities known to the public. At the same time it carried on its educational campaign concerning measures for conservation and advancement of the nation's health and welfare.

Appointment of a new Director of Information Services at beginning of the calendar year was the most significant of staff changes leading to internal reorganization and reassignment of duties.

Among outstanding events of the year was the "On Guard, Canada" civil defence project, undertaken jointly by Information Services and Civil Defence Divisions, in the Fall. This included a highway convoy which transported civil defence displays over thousands of miles, from the St. Lawrence to the Pacific and all the way back again to the Atlantic. Disaster-preparedness shows were held, with this material, and with co-operation of provincial and municipal civil defence authorities, in Montreal, Regina, Calgary, Vancouver, Edmonton, Saskatoon, Winnipeg, Windsor, Halifax and Saint John.

In June, the Division participated in "Operation Niagara", involving movement of Canadian civil defence teams and equipment to the "relief" of Niagara Falls, N.Y. On that occasion, press copy from the area was flown to St. Catharines, Ont., where a "disaster" edition of a newspaper was printed by arrangement with the Division and the papers dropped by helicopter at Niagara Falls, N.Y., before end of the exercise.

## Production

Again this year, the Division enjoyed generous co-operation of all public information media in its educational work and in making the department's activities known throughout Canada. Many new projects were initiated and others completed.

*Press*—Numerous press releases were issued, many of them reporting federal grants of funds provided under the National Health Program for extension of Canada's health services. Daily newspapers carried frequent special stories on health and welfare projects and weeklies continued to use the Division's features, including fillers, a health column and health cartoons. Some of the leading magazines ran stories relating to the Department's fields or worked with the Information Officers and professional staffs in preparing articles on health and welfare topics.

*Radio*—For the 15th consecutive year, nearly all stations “aired” spot health and welfare announcements without cost to the department and practically all independent radio stations carried the Division’s “Here’s Health” radio dramas. Health and welfare activities were dealt with on C.B.C. national networks as well as on several special commentaries, “on the spot” reports and, for the first time, on television, this relatively new medium also making use of a number of the department’s film productions.

*Periodicals*—Departmental magazines were issued for large lists of people interested in health and welfare and the Division edited various specialist periodicals issued by other Divisions. The departmental magazine “Canada’s Health and Welfare” was widely distributed. The Division also edited the departmental Annual Report.

*Publications*—Working with other Services sponsoring them, the Division produced numerous publications, informational material and special printings relating to the various fields.

The new edition of “Canadian Mother and Child,” completely rewritten and produced late last year, met with an immediate heavy demand for copies. The Division prepared and produced a preliminary text on federal health and welfare services for health educators and others interested in details of departmental activities.

“What You Want to Know about Nursing” was revised in co-operation with the Canadian Nurses’ Association and was produced for use by provincial nurses’ associations and provincial health departments.

Further detail on new publications will be found in reports of Divisions for whom they were produced.

*Films*—The film “From Sociable Six to Noisy Nine”, fourth in the Ages and Stages series, was completed and work was begun on a film tentatively titled “Not Alone”, to describe mental health services available to Canadians. Another film in production, “Care for the Living”, dealing with civil defence welfare services, employs a new film technique.

Three civil defence newsclips were produced and shown in theatres across the country. A general civil defence informational film and an orientation film for civil defence recruits, were in the planning stage. The Division also sponsored a newsclip featuring the Minister calling attention to National Health Week, a Health League of Canada project.

*Filmstrips*—Three filmstrips were produced for Indian Health Services covering Hydatid Disease, Infantile Diarrhoea and “How to Feed Your Baby”. “Discipline”, second in the Child training series of strips, was distributed during the year while the third, “Preparing Your Child for Medical and Dental Care”, was produced. Five filmstrips were produced for the Civil Defence Division (dealing with emergency feeding and emergency clothing).

*Posters*—Several new posters were produced, including three for the Dental Health Division under title, “The Why, When and How of Tooth-brushing”, and two for Indian Health Services (dealing with Hydatid Disease and the importance of X-ray examination in Tuberculosis control).

*Exhibits*—The Division established and staffed departmental exhibits at numerous conventions and fairs, including the American Public Health Association’s annual meeting, the Central Canada Exhibition, Canadian Dental Association convention, Montreal, Canadian Restaurant Association convention, Toronto. Information officers were present at numerous other important meetings to explain functions of the federal health and welfare services.

Arrangements were made to provide civil defence and other displays for use by local authorities at other events, including some major exhibitions in Western Canada.



## Miscellaneous

Work of the department was explained on numerous occasions to special writers and to groups visiting the headquarters establishments in Ottawa, including parties of Members of Parliament, graduate nurse classes, etc. Information officers took advantage of every opportunity to make the functions of the federal services known at meetings, with the aid of text, picture and display.

Publicity was arranged for such events as turning of the first sod for the new Food and Drugs Laboratory at Ottawa, hand-over by the federal government of fire pumpers for emergency disaster service, at Woodstock, Ont., civil defence drills in government buildings, etc., extensive press, photo, radio television and screen coverage being obtained on all such occasions.

This year the Division emphasized production of "package" kits, using combinations of leaflets, filmstrips, films, posters, manuals and discussion guides, to deal with specific health or welfare subjects.

All projects produced in English were adapted in the Division for use in French-speaking areas and copies of French materials were in demand even abroad. In addition, a series of articles in French on the National Health Program was produced.

Utilization of the Division's productions was checked by the compilation of press clippings, the Press Clipping Section also amassing a sizeable collection of press material on health and welfare subjects in order to keep departmental officials briefed on new developments and on public reaction to various problems.

During the fiscal year the Distribution Section shipped more than 7,000,000 pieces of health and welfare informational and educational materials, much of it in bulk to provincial health departments. This did not include the continuing distribution of periodicals and special bulletins issued by the Department.

The Biological Photographic Laboratory was particularly busy, its activities including processing of well over 10,000 prints, some 3,000 negatives and more than 2,000 slides and transparencies, for scientific and informational uses.

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## Legal Division

During the past year the Legal Division provided professional services such as are ordinarily performed by the legal officers to a large corporation. This involved the furnishing of opinions, the preparation of contracts and agreements and other legal documents, and advising on and assisting in prosecutions and other litigation in which the Department was concerned. Included in the last, more particularly, were prosecutions under the Food and Drugs Act, the Opium and Narcotic Drug Act and the Family Allowances Act.

The Division was also concerned with the revision and consolidation of regulations, the drafting and revision of departmental legislation for submission to the Department of Justice, and the preparation of numerous submissions and recommendations to the Governor in Council and the Treasury Board.

The Division's legal officers represented the Department on various boards and on inter- and intra-departmental committees concerned with administrative and policy matters of all kinds.

## Departmental Library

The Departmental Library continued with the selection, acquisition and organization of reference and technical books, serial publications, pamphlets and government documents on all phases of the Department's work, for collections in Ottawa and in regional establishments. Thus each year essential materials, such as the published information on current advances in laboratory research and medical practice, and findings and opinions on socio-economic subjects, are assembled into the already existing collections on these subjects, for the use of professional and other personnel engaged in research, advisory and regulatory undertakings for the Department.

Organization work, such as ordering and cataloguing, is done in the Main Library only, and finished work is supplied to other establishments as required. Catalogue cards for new material are sent to the National Library to be added to their Union Catalogue. This has led to an increase in requests for loans from other libraries.

Two annotated bibliographies on Social Welfare in Canada for the period July 1952 to June 1953 were compiled for publication in the United Nations Social Welfare Information Series.

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## Personnel Division

The Personnel Division continued to provide guidance to officers throughout the Department in matters of personnel management and organization. The Division represented the Department in all personnel matters, carrying on a continuous day to day relationship with the Civil Service Commission, the Treasury Board staff, the Comptroller of the Treasury, other government agencies, and employee associations.

The Division maintained personnel records, arranged and processed appointments, transfers, and promotions, counselled employees and arranged for the issue of salary cheques.

The past year saw continued difficulty in the recruitment of sufficient staff in the specialist fields such as medical officers, nurses, and scientific and technical personnel. There are still opportunities in the Department for qualified personnel of this type.

In that part of the Health Branch where scientific and technical personnel are employed, efforts have been made to employ qualified administrative officers and to rearrange work so that the specialists may concentrate on work requiring their special skills.

A Nursing Consultant has been appointed for the Health Branch.

Further progress has been made in improving the Regional organization of Indian Health Services. However, this has been considerably hampered by difficulty in obtaining properly qualified administrative officers.

Scope of the Division's work is indicated by the following tables, showing geographical distribution of staff, changes involving professional officers and statistics on departmental personnel generally.

TABLE 30  
GEOGRAPHICAL DISTRIBUTION OF STAFF AS AT MARCH 31, 1954

—	Welfare Branch including Civil Defence	Directorate of Indian Health Services	Health Branch	Administra- tion Branch	Total
Ottawa.....	100	16	441	302	859
Northwest Territories.....	.....	24	.....	.....	24
British Columbia.....	61	436	57	.....	554
Alberta.....	58	344	4	.....	406
Saskatchewan.....	54	148	3	.....	205
Manitoba.....	52	87	22	.....	161
Ontario.....	317	316	29	.....	662
Quebec.....	208	25	198	.....	431
New Brunswick.....	49	5	23	.....	77
Nova Scotia.....	53	18	68	.....	139
Prince Edward Island.....	9	1	1	.....	11
Newfoundland.....	30	.....	10	.....	40
Overseas.....	.....	.....	123	.....	123
Total.....	.....	.....	.....	.....	3,692

TABLE 31  
CHANGES OF FULL TIME STAFF WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES

Classification	Number of authorized positions March 31, 1954	Number appointed during the fiscal year	Number transferred or promoted during the fiscal year	Number terminated during the fiscal year	Number of vacant positions March 31, 1954	Approximate number of terminations per 100 employees
Physicians.....	226	36	21	18	34	9
Dentists.....	18	3	.....	.....	3	.....
Registered Nurses.....	439	158	35	119	15	25
Chemists.....	91	8	21	7	6	8
Bacteriologists.....	17	.....	.....	.....	.....	.....
Pharmacists.....	7	.....	1	.....	1	.....
Laboratory Technicians.....	111	30	16	19	8	18
Nutritionists.....	15	2	1	4	3	33
X-Ray Operators.....	20	2	1	.....	1	.....
Food and Drug Inspectors.....	56	1	45	6	.....	11
Public Health Engineers.....	24	3	2	2	2	9
Social Workers.....	21	8	1	4	2	21
Information Officers.....	8	1	3	1	.....	12
All other classes.....	2,769	931	254	764	133	29
	3,822	1,182	401	943	208	26



TABLE 32

STAFF STRENGTH BY DIVISION AT MARCH 31, 1953 AND MARCH 31, 1954

Division	Strength, March 31, 1953		Strength, March 31, 1954	
	Full Time	Part Time	Full Time	Part Time
Minister's Office.....	21	.....	23	.....
Departmental Secretary.....	108	.....	126	.....
Information Services.....	26	.....	29	.....
Legal.....	7	.....	6	.....
Library.....	14	.....	13	.....
Personnel.....	38	.....	41	.....
Purchasing and Supply.....	27	.....	25	.....
Research.....	37	.....	39	.....
Health Administration.....	13	.....	14	.....
Blindness Control.....	4	.....	4	.....
Child and Maternal Health.....	6	.....	6	.....
Civil Aviation Medicine.....	4	.....	5	.....
Civil Service Health.....	70	.....	72	.....
Dental Health.....	4	.....	6	.....
Epidemiology.....	15	.....	14	.....
Food and Drugs.....	212	.....	211	.....
Health Insurance Studies.....	18	.....	17	.....
Hospital Design.....	4	.....	4	.....
Occupational Health.....	32	.....	39	.....
Laboratory of Hygiene.....	86	.....	89	.....
Mental Health.....	3	.....	6	.....
Nutrition.....	21	.....	21	.....
Narcotic Control.....	25	.....	25	.....
Proprietary or Patent Medicine.....	6	.....	6	.....
Public Health Engineering.....	32	.....	34	.....
Quarantine, Immigration and Sick Mar.	375	21	388	18
Indian Health Services.....	1,213	62	1,360	60
Welfare Administration.....	4	.....	4	.....
Physical Fitness.....	7	.....	9	.....
Old Age Pensions.....	18	.....	17	.....
Family Allowances.....	819	1	839	.....
Civil Defence.....	75	.....	122	.....
	3,344	84	3,614	78

## Purchasing and Supply Division

During the past year the Purchasing and Supply Division continued to meet departmental requirements for materials and equipment.

The continuing growth of the Department, as reflected in the construction and opening of hospital wings, new nursing stations, and the Civil Defence College, and in expanded laboratory operations and greater administrative responsibilities, increased correspondingly the need for medical, technical, scientific, operating, maintenance, and general materials and equipment, and for stationery and office appliances.

Approximately 12,000 requisitions were processed, embracing almost every commodity. Orders were placed with manufacturers and suppliers in all parts of Canada and with other federal departments.

Departmental stores activities were expanded to include the collection and distribution of items required for Indian Health Services stations in the Eastern and Western Arctic and the Northwest Territories.

## Research Division

The Research Division continued to be responsible for the analysis and investigation of the socio-economic aspects of health, welfare and social security matters, with special emphasis on underlying principles, costs, financing, administrative procedures and reporting methods. Advisory and consultant services were provided on request to other directorates and divisions of the Department and to other government and non-government agencies and a number of joint research projects were undertaken in co-operation with other divisions.

The Division assisted with the introduction of new legislation and services sponsored by the Department, through the provision of research and advisory services.

Before the introduction of the Disability Allowances Bill, programs in other countries and in the three Canadian provinces to which Allowances were already being paid, were analysed and estimates were made of the extent and nature of permanent physical disability in Canada, and the probable costs of such a program. Members of the Division visited Washington and a number of States to make a detailed study of state programs in the United States.

In research connected with the introduction of the Medical Rehabilitation, Child and Maternal Health and Laboratory and Radiological Services Grants, a number of studies were carried out of the extent of the problem and of ways of meeting it in the field of each proposed grant, and estimates made of probable case-loads and program costs.

In addition, as the result of the Division's analysis of personal expenditures on health care, the Department was able to make recommendations which were of assistance to the Department of Finance in the decision to reduce from four to three per cent the amount of net income which may be deducted for health care expenses in the calculation of income tax.

## Manpower Studies

Research was continued into the supply and distribution of health and welfare personnel with special reference to physicians, dentists, nurses and social workers. The fifth edition of *Survey of Physicians in Canada*, based on the Physicians' Register maintained by the Division, was published during the year and a re-survey of all physicians in Canada was commenced during March. The re-survey, which was carried out by post-card questionnaire, in co-operation with the Canadian Medical Association and l'Association des Medecins de Langue Française du Canada, was designed to check the accuracy of the records of the Physicians' Register as well as to provide information for the use of the medical associations, the Defence Medical and Dental Services Advisory Board, and for civil defence purposes.

A comprehensive report on the Head Nurse Study, carried out by the Division at the Ottawa Civic Hospital for the Canadian Nurses' Association, was completed during the year. The Division also participated with the Civil Defence Health Planning Group and Manitoba public health and civil defence authorities in a survey of the nursing resources of the province of Manitoba, which was designed to collect data on both active and inactive nurses in the province with a view to the setting up of a provincial nurses' registry, and as a pilot study which might be of interest to other provinces.

The Report on The Survey of Welfare Positions, carried out at the request of the National Conference on Personnel in Social Work, was completed by the end of the year, and arrangements were made for its publication. The Survey covers all full-time paid employees in welfare positions in Canada.

## Health Problems

The Division continued to conduct, or assist in conducting special health studies as required.

Co-operation with the Occupational Health and Epidemiology Divisions was continued in the study of air pollution in the Detroit-Windsor area for the International Joint Commission. Preliminary data arising from the study were analysed and a report prepared for the consideration of the Commission.

Analysis of data arising from the Canadian Sickness Survey was carried on in conjunction with the Dominion Bureau of Statistics. The Division assisted the Bureau in the preparation of a series of bulletins published during the year, based on survey data and dealing with family expenditures on health care, and participated in the planning of further bulletins dealing with sickness rates and other data. A supplementary Report on Permanent Disabilities in Canada was prepared by the Division from data collected in a special investigation made as part of the Survey.

In addition to work carried out with the Directorate of Health Insurance Studies and the Child and Maternal Health Division in connection with the Child and Maternal Health Grant, with the Directorate of Health Insurance Studies and the Departmental Consultant on Rehabilitation in connection with the medical Rehabilitation grant and with the Directorate of Health Insurance studies in connection with the Laboratory and Radiological Services Grant, the Division aided other Divisions in special projects in the health field. Assistance was given to the Dental Health Division in the statistical analysis of data from the fluoridation surveys being carried on in Brantford, Stratford and Sarnia, and in the analysis of the measurements of the extent of gingivitis discovered in these surveys. The Division worked closely with the Child and Maternal Health Division on the Winnipeg breast abscess study, the investigation of urban-rural differences in infant mortality, and other problems. Advisory services were provided to the Nutrition Division in the Canadian Weight-Height Survey. A study of hospital morbidity statistics was carried out for the Directorate of Health Insurance Studies, and a questionnaire form was prepared for the Occupational Health Division for use in a survey of industrial health in Canada to be carried out by the Department of Labour in conjunction with the Labour Force Survey.

The building up of reference data on chronic illness problems was continued. An article on this topic was prepared for *Canada's Health and Welfare* and a member of the Division participated in the National Conference on the Care of the Long-Term Patient held in Chicago in March, by the United States Commission on Chronic Illness.

## Health Services

Several sections were completed of the comprehensive National Report on Health Services and Resources which is being prepared by the Division from provincial Health Survey Reports and other data. Completed sections were reviewed with health authorities in the provinces and it is expected that a number of volumes of the National Report will be published during the coming year.

Memoranda were prepared, as required, on health services and legislation, including studies of legislation governing the admission of the mentally ill to institutions and the history of proprietary medicines legislation in Canada. The report of the Survey of Psychiatric Services in General Hospitals, carried out in the previous fiscal year, was published in the Canadian Medical Journal.

## Health Methods

The Division's work in public health methods was expanded. In conjunction with the Epidemiology Division a comprehensive report was commenced on the methodology employed in the Canadian Sickness Survey. Assistance continued to be given to the Directorate of Indian Health Services in the development of a new statistical reporting system for hospital and other health facilities and conditions, and to the Directorate of Health Insurance Studies in the preparation of a comprehensive records system for the National Health Grants Program. A suggested methodology was developed for the Dental Health Division for the conduct of a survey to determine the efficacy of one topical application of sodium fluoride and assistance was given to the Occupational Health Laboratory in the design of a system for recording results of its film monitoring service. Members of the Division continued to be called on to advise on a great variety of technical problems encountered in the work of other divisions.

## Hospital and Medical Care

The Division continued to provide research services in the field of health care to the Directorate of Health Insurance Studies. Development in public and private programs in Canada and other countries was kept under review and changes studied, with particular attention being given to the Swedish scheme and the extension of the Australian Health Plan.

A comprehensive bulletin on the operations of the major non-profit medical care insurance plans in Canada was completed; this study included an examination of the numbers covered, the scope of benefits offered and the financial experience of these plans. Provincial health care programs for public assistance recipients, and the several hospital plans, continued to receive study and a comparative analysis was carried out of the financial aspects of seven health care programs in Great Britain, New Zealand, France, the Netherlands, and the Scandinavian countries.

In addition to providing data for assistance in the administration of the National Health Grants Program, the Division undertook for the Directorate of Health Insurance Studies a number of research projects in the field of health care, including an examination of personal health care in Canada from data contained in the Canadian Sickness Survey, the National Accounts and other sources.

Further assistance was given to the Department of Labour in the preparation of information on sickness benefit plans in industry; information on health care was provided on request to other Departments, agencies and universities and liaison was maintained with officials of public and private programs in Canada and the United States.

## Rehabilitation Services

In addition to its work in connection with the introduction of the Medical Rehabilitation Grant, the Division assisted and co-operated with the National Co-ordinator for Rehabilitation and with departmental officials in the development of rehabilitation services in Canada, and a considerable amount of work was done on the integration of rehabilitation services under the grant with the proposed Disability Allowances Program.



Assistance was given to the Department of Labour in the preparation for the International Labour Organization of a projected international recommendation on the subject of vocational rehabilitation, and material on rehabilitation was prepared for inclusion in other reports to the United Nations. The Division participated in a workshop on rehabilitation arranged by the Canadian Welfare Council and a study was made of rehabilitation centres in the States of New York, Connecticut and Massachusetts.

The Director served as one of the three federal representatives on the National Advisory Committee on the Rehabilitation of Disabled Persons.

### **Welfare Services**

While the major emphasis in public welfare research was placed on completion of the Survey of Welfare Positions, a number of other projects were undertaken, including a Report on Developments in Community, Family and Child Welfare in Canada for the four years 1949 to 1953, prepared for the United Nations, and a report on activities related to recreation of federal departments and Crown corporations. The bulletin "Mothers Allowances Legislation in Canada" was brought up to date and a report was prepared for the Canadian Welfare Council on the training of Social Workers under the National Health Grant Program.

Work being done in different countries for aging persons was kept under review. The Director of the Division served as a member of the Canadian Welfare Council's Committee on the Needs of the Aged and on the Committee established to examine the role of the council in this field. He also acted as Chairman of a section of the National Conference of Social Work in the United States on the changing role of old age assistance and old age and survivors' insurance and addressed the annual convention of the Ontario Association of Managers and Matrons of the Homes for the Aged. The Division provided comments and suggestions in connection with the preparation of the booklets, *Housing an Aging Population*, prepared by the American Public Health Association, and *The Needs of Older People* by the American Public Welfare Association.

Members of the Division participated in a round table discussion of the social implications of the 1951 Census, which was held under the auspices of the School of Social Work of the University of Toronto, and the Director took part in the round table on Research Planning in Social Welfare held under the auspices of the Harry M. Cassidy Memorial Research Fund.

### **Income Maintenance**

In addition to work in connection with the preparation for the proposed Disabilities Allowances program, the Division continued its study of income maintenance measures in different countries. A Report on Social Security Expenditures in Australia, Canada, Great Britain, New Zealand and the United States was prepared and distributed to specialists in the field of social security in Canada and other countries, with a request for comments on the classification of expenditures adopted.

A paper on *Some Aspects of Family Allowances and Income Redistribution*, based in part on the 1947-1948 D.B.S. Survey of Family Expenditures, was prepared by the Director for the Fiscal Policy Seminar of Harvard University and published in the University's annual volume, *Public Policy*.

**Miscellaneous**

Sections of the Canada Year Book and other official publications dealing with health, welfare and social security were prepared by the Division as in other years. Articles were written for *Canada's Health and Welfare* on personal health programs in the United Kingdom, New Zealand, the Netherlands and the Scandinavian countries, on the U.S. Hospital Grant Program, the Danish Government Youth Commission and other subjects. Assistance continued to be provided to private organizations and persons in the preparation of publications related to the work of the Department.

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# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

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HONOURABLE PAUL MARTIN, Q.C., M.P., LL.M., LL.D.

Deputy Minister of National Health and Welfare (Health)

G. D. W. Cameron, M.D., C.M., D.P.H., LL.D.

Deputy Minister of National Health and Welfare (Welfare)

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 No. 7 Temporary Building, Green Island

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 TORONTO, Ont. .... 122 Front Street West  
 WINNIPEG, Man. .... Lindsay Building  
 REGINA, Sask. .... Dominion Government Building  
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 WINNIPEG, Man. .... Aragon Building  
 VANCOUVER, B.C. .... Federal Building

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 SAINT JOHN, N.B. .... 250 Prince William Street  
 SYDNEY, N.S. .... Naval Administration Building  
 ST. JOHN'S, Nfld. .... T.A. & B. Society Building  
 QUEBEC, Que. .... 92 Dorchester Street, St. Roch  
 THREE RIVERS, Que. .... Post Office Building  
 SHERBROOKE, Que. .... Whiting Block  
 MONTREAL, Que. .... 379 Common Street  
 TORONTO, Ont. .... 27-39 St. Clair Ave East  
 BELLEVILLE, Ont. .... 12 Bridge Street  
 HAMILTON, Ont. .... 42 James Street North  
 KITCHENER, Ont. .... Dominion Public Building  
 LONDON, Ont. .... Dominion Public Building  
 WINDSOR, Ont. .... 137 Ouellette Ave.

**FOOD AND DRUG OFFICES—*Conc.***

SUDBURY, Ont. ....	Federal Building
PORT ARTHUR, Ont. ....	33 Court Street South
WINNIPEG, Man. ....	Aragon Building
SASKATOON, Sask. ....	219-22nd Street East
REGINA, Sask. ....	McCallum Hill Building
CALGARY, Alta. ....	Customs Building
EDMONTON, Alta. ....	Post Office Building
KAMLOOPS, B.C. ....	345 Victoria Street
VANCOUVER, B.C. ....	Federal Building
VICTORIA, B.C. ....	805 Government Street

**IMMIGRATION MEDICAL SERVICE OFFICES****Canada**

GANDER, Nfld. ....	Gander Airport.
HALIFAX, N.S. ....	Immigration Building, Pier 21.
MONCTON, N.B. ....	Moncton Airport.
MONTREAL, Que. ....	379 Common Street and Dorval Airport.
QUEBEC, Que. ....	Immigration Hospital, Quebec-West.
SAINT JOHN, N.B. ....	Pier 9, Immigration Building.
ST. JOHN'S, Nfld. ....	Marshall Building, Water Street, P.O. E5109.
STEPHENVILLE, Nfld. ....	Harmon Field Airport.
TORONTO, Ont. ....	737 Church Street and Malton Airport.
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VICTORIA, B.C. ....	Immigration Building.

**Overseas**

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LIVERPOOL, England ....	34 Moorfields, Liverpool 1.
BRUSSELS, Belgium ....	230 rue Royale.
PARIS, France ....	38 Avenue de l'Opéra.
ROME, Italy ....	Via Nimorense, 90.
THE HAGUE, Holland ....	12 Carelvan Bijlandtlaan
COPENHAGEN, Denmark ....	Vestagervej 5.
LINZ, Austria ....	Canadian Government Immigration Mission, Finanzgebaude Ost.
KARLSRUHE, Germany ....	Canadian Government Immigration Mission, 11 Redtenbacherstrasse.
BREMEN, Germany ....	Canadian Government Immigration Mission, Bremer Ueberseeheim, Neidersacsendamm, Bremen- Neustadt.
HANOVER, Germany ....	10 Kirchroederstrasse.
BERLIN, Germany ....	Canadian Government Immigration Mission, Berlin-Zehlendorf, Ber- liner Str. 25.



**IMMIGRATION MEDICAL SERVICE OFFICES—Overseas—*Conc.***

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HAMBURG, Germany .....	Canadian Government Immigration Mission, Admiralitaetstrasse, 46.
ATHENS, Greece .....	18 Anagnostopoulov St. Kolonaki.

**SICK MARINERS CLINICS AND HOSPITALS**

HALIFAX, N.S. ....	Immigration Building, Pier 21.
SYDNEY, N.S. ....	Marine Hospital.
SAINT JOHN, N.B. ....	Pier 9.
QUEBEC, Que. ....	Louise Basin.
MONTREAL, Que. ....	379 Common Street.
VANCOUVER, B.C. ....	Immigration Building.

**QUARANTINE STATIONS AND SUB-STATIONS**

HALIFAX, N.S. ....	Pier 21 and Rockhead Hospital
SAINT JOHN, N.B. ....	Pier 9 and Quarantine Hospital Lancaster, N.B.
QUEBEC, Que. ....	Louise Basin and Quarantine Hospital, Quebec-West
MONTREAL, Que. ....	379 Common Street and Dorval Airport
VANCOUVER, B.C. ....	Immigration Building and Sea Island Airport
VICTORIA, B.C. ....	William Head, B.C.
GANDER, Nfld. ....	Gander Airport
THREE RIVERS, Que. ....	Sub-stations under direction of Quarantine Officer in Charge of Quebec. There is a Quarantine Officer appointed in each port.
SOREL, Que. ....	
RIMOUSKI, Que. ....	
PORT ALFRED, Que. ....	

**INDIAN HEALTH SERVICES****Hospitals**

PRINCE RUPERT, B.C. ....	Miller Bay Indian Hospital
NANAIMO, B.C. ....	Nanaimo Indian Hospital
SARDIS, B.C. ....	Coqualeetza Indian Hospital
†CARDSTON, Alta. ....	Blood Indian Hospital
EDMONTON, Alta. ....	Charles Camsell Indian Hospital
GLEICHEN, Alta. ....	Blackfoot Indian Hospital
HOBBEMA, Alta. ....	Hobbema Indian Hospital
FORT QU'APPELLE, Sask. ....	Fort Qu'Appelle Indian Hospital
NORTH BATTLEFORD, Sask. ....	North Battleford Indian Hospital
HODGSON, Man. ....	Fisher River Indian Hospital
PINE FALLS, Man. ....	Fort Alexander Indian Hospital
NORWAY HOUSE, Man. ....	Norway House Indian Hospital

† Departmental hospital staffed by religious orders on stipend.

**INDIAN HEALTH SERVICES—Hospitals—*Conc.***

*BRANDON, Man. ....	Brandon Indian Hospital
*SELKIRK, Man. ....	Dynevor Indian Hospital
*THE PAS, Man. ....	Clearwater Indian Hospital
MOOSE FACTORY, Ont. ....	Moose Factory Indian Hospital
OHSWEKEN, Ont. ....	Lady Willingdon Indian Hospital
SIOUX LOOKOUT, Ont. ....	Sioux Lookout Indian Hospital

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Big Trout Lake, Ont.	Little Grand Rapids (Proposed) Man.
Cape Dorset, N.W.T.	Little Saskatchewan, Man.
Coppermine, N.W.T.	Manitowaning, Ont.
Cross Lake, Man.	Masset (Proposed) B.C.
Driftpile, Alta.	Nelson House, Man.
Eskasoni, N.S.	Onion Lake, Sask.
Fort à la Corne (Proposed) Sask.	Osnaburgh, Ont.
Fort Chimo, Que.	Oxford House, Man.
Fort George, Que.	Peigan (Brochet) Man.
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Fort McPherson, N.W.T.	Pikangikum, Ont.
Fort Norman, N.W.T.	Port Harrison, Que.
Frobisher Bay (Proposed) N.W.T.	Pukatawagan (Proposed) Man.
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Goodfish Lake (Proposed), Alta.	Saddle Lake, Alta.
Hay Lakes, Alta.	Sandy Lake (Proposed) Ont.
Island Lake, Man.	Split Lake (Proposed) Man.
Lac La Ronge, Sask.	St. Therese's Pt., Man.
Lac Seul, Ont.	Stony (Morley) Man.
Lake Harbour, N.W.T.	Tobique, N.B.
Lansdowne House, Ont.	

**Health Centres**

Aklavik, N.W.T.	Notre-Dame du Nord (Temiskaming)
Alert Bay, P.C.	Que.
Amos, Que.	Obedjiwan (seasonal) Que.
Big Cove, B.C.	Oka, Que.
Broadview, Sask.	Pangnirtung, N.W.T.
Calgary, Alta.	Parry Sound, Ont.
Carmacks, Yukon (seasonal)	Peterborough, Ont.
Chapleau, Ont.	Pointe Bleue (Roberval) Que.
Churchill (Proposed) Man.	Portage la Prairie, Man.
Chesterfield, N.W.T.	Port Arthur, Ont.
Chippewa Hills, Ont.	Port Simpson, B.C.
Christian Island, Ont.	Punnichy, Sask.
Fort Francis, Ont.	Rapid Lake (seasonal) Que.
Fort Rae, N.W.T.	Restigouche, Que.
Fort Resolution, N.W.T.	Romaine (Proposed seasonal) Que.
Fort Simpson, N.W.T.	Rossville, Man.
Goodfish Lake, Alta.	Sandy Bay, Man.
Greenville, B.C.	Sault Ste. Marie, Ont.

\* Departmental Sanatoria staffed and operated by the Sanatorium Board of Manitoba, with reimbursement on a per diem basis.

**INDIAN HEALTH SERVICES—Health Centres—*Conc.***

High Prairie, Alta.	Sept Iles, Que.
Kamsack, Sask.	Shubenacadie, N.S.
Kenora, Ont.	St. Paul, Alta.
Kingsclear, N.B.	St. Regis, Que.
Lennox Island, P.E.I.	Sturgeon Fall, Ont.
Lillooet, B.C.	Sydney, N.S.
Maniwaki, Que.	Teslan (seasonal) N.W.T.
Manowan (Proposed seasonal) Que.	Vanderhoof, B.C.
Meadow Lake, Sask.	Vernon, B.C.
Merritt, B.C.	Walpole Island, Ont.
Mistassini (seasonal) Que.	Waswanipi (seasonal) Que.
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Newcastle, N.B.	Williams Lake, B.C.
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Edmonton, Alta.	Miller Bay, B.C.
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Fort Alexander, Man.	North Battleford, Sask.
Fort Qu'Appelle, Sask.	Ohsweken, Ont.
Hobbema, Alta.	Sardis, B.C.

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# ANNUAL REPORT



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CANADA

THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE

# ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31

1955

Edmond Cloutier, C.M.G., O.A., D.S.P.,  
Queen's Printer and Controller of Stationery  
Ottawa, 1955





*To His Excellency the Right Honourable Vincent Massey, C.H., Governor-General and  
Commander-in-Chief of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1955.

Respectfully submitted,

PAUL MARTIN,  
*Minister of National Health and Welfare.*



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*To the Honourable Paul Martin, Q.C., M.P., LL.D., D.C.L., Minister of National Health and Welfare, Ottawa.*

SIR:

During the year under review, continued progress was evident in the various areas of established departmental activity, while certain new responsibilities were accepted to widen the scope and effectiveness of its work. Among the year's highlights, three developments stand out: the inauguration of the Disability Allowance program; the advance preparations for the anticipated widespread use of the Salk polio vaccine; and the changed emphasis in civil defence resulting from the publication by the United States authorities of information on the effects of thermonuclear weapons. The implications of these and other developments relating to the Department's responsibilities are fully dealt with in this Report.

The extent of the Department's activities is indicated by the fact that for the year under review Parliament granted more than \$800,000,000 for its work—an increase of some \$30,000,000 over the previous fiscal year. This increase was accounted for, in large measure, by the normal annual growth in the major social welfare programs—old age security, family allowances, old age assistance, and allowances for the blind—as the result of Canada's steadily increasing population.

As has been noted, the major development on the welfare side was the inauguration of the federal-provincial program of Disability Allowances under the terms of the Disabled Persons Act, assented to by Parliament on June 26, 1954. By the end of the fiscal year, agreements had been signed or were in process of negotiation with all ten provinces and allowances were actually being paid in five provinces. Under the terms of this program, payments up to \$40.00 a month may be granted to totally and permanently disabled persons who meet the requirements of the Act and its Regulations. The allowances are administered provincially and their cost is shared equally by the Federal and Provincial governments.

On the health side, perhaps the most notable feature of the year's work was the detailed planning carried out to ensure that substantial supplies of rigidly tested Salk vaccine would be available for immediate use just as soon as its safety and effectiveness had been clearly demonstrated. It will be recalled that, during the summer and fall of 1954, a mass field trial—in which more than 1,800,000 children in the United States and Canada participated—was undertaken to assess the efficacy of the Salk vaccine. The results of this study were to be made known in the Spring of 1955. However, because the production and testing of the vaccine is a long and complex process extending over several months, it was decided in the Fall of 1954 that large-scale production of the vaccine should be initiated in Canada in advance of the publication of the results of the field trial so that supplies would be available in quantity for use during the 1955 polio season.

Accordingly, arrangements were worked out, in co-operation with the ten provincial departments of health, under which the federal and provincial governments would



share on a 50-50 basis the cost of underwriting the production of Salk vaccine by the Connaught Medical Research Laboratories at the University of Toronto. The vaccine thus produced was to be allocated to the various provinces on a per capita basis for administration to children in selected age groups. By the end of the fiscal year, sufficient vaccine for the immunization of more than 500,000 children had been provided to provincial and local health authorities for immediate release as soon as a favourable report on the field trial was announced.

All vaccine produced at Connaught Laboratories was subjected to the most rigid safety tests and samples of each lot were carefully retested at Ottawa by the Department's Laboratory of Hygiene.

It is of interest to note, in passing, that an important step in the research that led to the development of the Salk vaccine was the discovery of Medium 199 by Morgan, Morton and Parker during the course of a cancer research project carried out at the Connaught Medical Research Laboratories a few years ago. This medium proved to be a suitable agent for the large-scale culture of polio virus needed in the preparation of the vaccine. Two of the three scientists who undertook this work, Dr. Joseph Morgan and Miss Helen Morton (now Mrs. Helen Coval), are presently employed on the staff of the Department's Laboratory of Hygiene.

Turning to the Department's third area of responsibility, civil defence, it is our view that 1954-55 has been the most critical and yet, in many ways, the most productive year in the brief history of this departmental activity.

The Civil Defence College at Arnprior completed its first full year of operation. From its opening in January, 1954, to the end of the fiscal year in March, 1955, 1,999 candidates passed through the college. During this period, 74 different groups attended 22 types of courses; in addition, 15 conferences, sessions or special studies were conducted. A number of new courses were carried out for the first time during the year under review, including courses for physicians, pharmacists, police and other special groups, as well as a harbour study and a forum on natural disaster.

During the year under review, the accent in civil defence planning shifted to a policy of evacuation and shelter to meet the new threats posed by the hydrogen bomb and the dangers arising from radioactive fall-out. Tests of evacuation plans were held at St. John's, Newfoundland, and Brockville, Ontario, and plans were made for further tests in other cities.

To revert to some of our long-established responsibilities, the official opening took place on December 16, 1954, of an important addition to the Department's facilities, the new Virus Research Laboratory located at Tunney's Pasture in the west end of Ottawa. Already under construction in the same area is a new Headquarters for the Food and Drug Divisions which will, when completed late in 1955 or early 1956, provide the Department with a completely modern building specifically constructed for this specialized work. It might be noted here that, on July 1, 1954, the revised Food and Drugs Act, passed at the previous session of Parliament, was proclaimed and both the revised Act and its Regulations are now in operation.

The Opium and Narcotic Drug Act was amended by Parliament during the year under review to provide for more effective measures against the illicit traffic in drugs. Under the Act, as amended, the new offence of being in possession of drugs for the purpose of trafficking was established. By this, the onus is on the person found to be in illegal possession of drugs to prove that his possession was not for the purpose of trafficking. For this offence and for trafficking an increased penalty of up to fourteen



years was provided. The Act was also amended to permit the acceptance of telephoned prescriptions for medicated narcotic products.

As the result of field work carried out by the Department's Nutrition Division during the previous year, tables have now been prepared and distributed to physicians and other professional people, providing useful information on the average weights for height and age among Canadians.

With the co-operation of all ten provinces, the grants made available under the National Health Program continued to provide an effective stimulus to the development of health services, the construction of additional hospital facilities and the encouragement of fundamental research into many public health problems. Expenditures for the year totalled slightly over \$31,500,000, the highest for any of the seven years of the National Health Program's history.

The Department's Research Division placed a major emphasis on research in the field of health and hospital care and comprehensive documentation was prepared on health services. For example, the Division collaborated with the Bureau of Statistics in the preparation of a number of bulletins based on the Canadian Sickness Survey. Studies were also conducted concerning such matters as the extent and cost of illness and the utilization of health services. During the year, comparative analyses of health, welfare and social security expenditures in the different provinces and among various countries were completed. In addition, a number of studies were initiated in the broad field of child welfare.

As in previous years, there was a steady and continuing growth in the extent of most of the major social welfare programs administered in whole or in part by the Department. For example, at year's end, 5,169,000 children in 2,195,000 families were benefiting under the Family Allowances program with payments for the year exceeding \$366,000,000—an increase of nearly five per cent over the previous year. Expenditures on Old Age Security reached a total of more than \$354,000,000. During the year the number of persons 70 years of age and over who were receiving the universal old age security pension increased from 720,255 in April, 1954, to 745,620 during March, 1955.

For the federal-provincial Old Age Assistance and Blindness Allowance programs, the combined federal contribution during the year exceeded \$23,000,000. Under the Old Age Assistance Act, 94,625 needy persons 65 and over were receiving allowances at year's end, while total payments for the year reached nearly \$42,000,000—of which the federal share was 50 per cent. The Federal Government also contributed 75 per cent towards the cost of allowances for the blind. For this latter program, the federal share approximated \$3,000,000 and 8,122 blind persons were benefiting as at March 31, 1955.

In a novel public relations project, the Information Services Division staged an Exhibition of its work and procedures at Ottawa in May. Many parliamentarians, representatives of the press, radio and television, officials of government and voluntary agencies and others, who attended on invitation, completed questionnaires to assist the Department in the evaluation and future planning of its public health and welfare information activities. This program was further assisted by a Federal-Provincial Health Education Conference, also held in the Spring, and attended by representatives of all the provinces and some of the metropolitan health units.

As in the past, the Department continued to work closely with the various voluntary agencies and professional groups in the health and welfare fields and during the year effective co-operation was very much in evidence with these groups and with the

appropriate departments of government in the ten provinces. During the summer of 1954 two large international gatherings were held in Canada—the International Conference of Social Work and the World Congress of Mental Health—in both of which the Department played an important role.

Mr. Minister, we should not like to conclude this letter of transmission without making reference to the conscientiousness and to the generally high level of competence of the departmental staff. Special mention should also be made of the valuable assistance given to the Department by two auxiliary services provided by other federal departments through the Treasury and Translation Offices attached to this Department. It is our considered opinion that few government agencies are better served than the Department of National Health and Welfare and we here acknowledge our gratitude and thanks to the members of the Department's staff for their faithful and effective work during the year under review.

Respectfully submitted,

G. D. W. CAMERON,  
*Deputy Minister of National Health  
and Welfare (Health)*

GEORGE F. DAVIDSON,  
*Deputy Minister of National Health  
and Welfare (Health)*

OTTAWA, Canada.

# HEALTH BRANCH

## Introduction

### Administration

The Health Branch is composed of a number of directorates and divisions grouped for administrative convenience according to their functions. Some administer certain federal Acts; others provide health services which are a departmental responsibility by statute; still others are primarily responsible for furnishing the provinces with financial, technical and advisory assistance in promoting a broad public health program of national scope.

General administrative organization has been previously covered, and there were only a few minor adjustments during the year. The responsibilities of the Director of Health Insurance Studies have been divided between two Principal Medical Officers responsible respectively for Health Insurance Studies and National Health Grants Administration within the Directorate of Health Services. A new division of Northern Health Services has become necessary to keep pace with the increasing responsibilities for the provision of medical care and public health services to the relatively unorganized but rapidly developing Northwest Territories. For the present, this service will continue to be directed by the Indian Health Services Directorate.

### Trends and Developments

The Health Branch must, of course, keep well informed on the many developments in the ever-broadening field of health care. This section reviews in a general way some of the subjects of special interest during the past year because of new developments or because of changes in the nature of the problem.

### Canadian Sickness Survey

For the first time in Canada a large body of information has been compiled concerning the nature and extent of ill health in the whole country, the volume and type of health services received by the population and the consumer's financial investment in health care. This information was collected over a period of a year by monthly visits to some 10,000 sample households, carefully chosen to represent different parts of the country.

The Canadian Sickness Survey, as it is officially known, was carried out during a 12-month period commencing in the autumn of 1950. It was initiated by the Department of National Health and Welfare and carried out by the ten provincial health departments with federal funds made available to the provinces through the National Health Program. The planning and organization of the survey was a joint undertaking of the Dominion Bureau of Statistics and this Department, in consultation with the provinces. The results have been released in a series of special compilations and reference papers, and it is anticipated that a complete report will be published in the coming year.

The first four publications dealt with family expenditures for various items of health care. During the survey year it was estimated that Canadians spent nearly \$375 million, or about \$82 per family on all items of health care, either directly or through the purchase of health care insurance. Of the consumer "health care dollar", about 23 cents was spent on physicians' services and 12 cents on hospital care; the costs of insurance protection against hospital and medical bills amounted to another 24 cents.

Of the remaining items, payments for drugs and appliances—an additional 20 cents, and dental care, about nine cents, represented the largest expenditures. Although the average Canadian family spent about \$82 on all items, the amounts spent per family increased in the higher income brackets; larger families, however, were not reported as spending as much per member as the smaller ones. Just over one-quarter of the families with incomes under \$1500 reported the purchase of some health care insurance, compared to one-half of those with incomes between \$1500 and \$3000, and two-thirds of families spent an average of \$100 each for all types of health care while families in Quebec, Ontario, the Prairies, and the Maritimes spent successively smaller amounts. The pattern of family spending in these regions varied considerably. Quebec families, for example, reported the highest per family expenditures for both prescribed and non-prescribed drugs, and although only 28 per cent of all Canadian families reported any expenditures on dental care, those in British Columbia averaged \$13 each on this item, nearly twice the national average.

As to the volume of illness, the average Canadian spent 5.8 days in bed at home or in hospital and was generally "disabled", i.e., unable to pursue normal activities, for an average of 11.9 days, during the year. Twenty out of every 100 Canadians experienced a complaint-free year, twenty-two reported at least one disturbance of health in the year, but not sufficiently disabling to interrupt their normal activities; ten were apparently prevented from such activities but not confined to bed and 48 were confined to bed, either at home or in hospital. From the Survey data, it has been estimated that on any day, about eight per cent of the Canadian population will report an illness, including about three per cent with an illness of a disabling nature. In 1954, these proportions would have represented about 1,200,000 persons and 450,000 persons respectively. As might be expected, the relative number of persons ill increases steeply after 25 years of age.

The information collected on the actual illnesses reported by families will allow important analyses of more than 75 diseases and conditions. Preliminary evidence shows that diseases of the respiratory system represented 54 per cent of the total of all illnesses, of the digestive system eight per cent, infective and parasitic diseases six per cent, and accidents, poisonings and violence five per cent. Nearly a million Canadians were estimated to be suffering from permanent physical disabilities, of whom 425,000 could be described as severely disabled and 100,000 as totally disabled. Six types of disabilities—heart disease, residual impairments due to accidents, arthritis and rheumatism, deafness, visual impairments and chronic disorders of the nervous system, in that order—accounted for 60 per cent of all the primary permanent disabilities reported.

During the Survey year, practising physicians provided over 22,500,000 home and office calls, about one-third of them in the home; about 2,000,000 visits were made to hospital outpatient clinics. However, only about 5,750,000 persons consulted a doctor in the home or office; or in other words, three out of every five Canadians did not see a physician in the home or office during the year. More women than men, however, received services, and as might have been expected, the rates for older persons were higher than for younger ones.

After the basic data on expenditures, illnesses, and services have been published, it is intended that special studies relating particular groups of the population, such as large families and low income families, to their illness experience and expenditure and service patterns, will be made available for detailed analysis.

## **Ionizing Radiation**

The subject of ionizing radiation and its possible effects upon health is a matter of current public interest and concern. It is generally agreed that the use of nuclear radiation should now be regarded as a world-wide public health problem and not merely as a localized industrial health matter, of interest only to those working in a small number



of nuclear energy establishments. Increasing numbers of people are being exposed to radiation from such sources as x-rays and radioactive isotopes, as well as to the products of nuclear weapon testing. These types of radiation are listed both in the order of their historical development and the magnitude of their effects on human populations at the present time.

Until nuclear energy became available for use, relatively small numbers of people worked with radiation. During the past dozen years, however, there has been a steady increase in the number of radiation workers, and at every step the greatest care has been taken to make sure that as little radiation as possible should be received by them. That this program of radiation safety has been successful is indicated by the rarity of radiation injury among this group.

More recently, concern has been expressed about the possible genetic effects that might ultimately result from a large proportion of the general population being exposed to significant amounts of radiation, from any of the sources mentioned. Although the genetic problem is exceedingly complex, many important factors are known, and this country possesses the scientific potential to carry on continuing investigations in this field.

### **Fluoridation**

The subject of artificial fluoridation of water supplies has attracted a great deal of public interest and produced some controversy. Research studies carried on on this continent indicate, however, that fluoridation has a substantial effect on the reduction in the incidence of dental caries. The procedure has been generally endorsed by medical, dental and public health associations of the North American continent and is increasingly being adopted as a community public health measure.

### **Poliomyelitis**

The decrease in the reported incidence of poliomyelitis in Canada during the summer and fall of 1954 was a welcome relief from the abnormally high incidence of the preceding two years. Although sharp outbreaks occurred in Quebec in the Lake St. John area and in Prince Edward Island, in other provinces the incidence for the year approximated or was considerably lower than the five-year average for all Canada.

Gamma globulin continued to be made available for the protection of contacts of established cases of polio where circumstances seemed to favour its use. It was also recommended for use in selected groups exposed to poliomyelitis and for the protection of pregnant women as well as members of poliomyelitis nursing teams and their families.

The outcome of the field trial of the Salk polio vaccine, initiated during the spring of 1954, was the subject of much speculation. Had it been possible to produce the vaccine on short notice, much of the concern regarding its availability during the next epidemic season would have been obviated. Such was not the case, however, and it was necessary to plan and make firm commitments for production of the material at least six months in advance of the expected conclusion of this trial. Thus, in co-operation with provincial health authorities and with funds provided under the National Health Program matched by provincial contributions, a plan was devised and initiated in October, 1954. This called for production by the Connaught Medical Research Laboratories of 500,000 triple doses of vaccine for possible use, as indicated by the 1954 trials, during the following spring and summer seasons. This anticipation of favourable results of the field trials provided sufficient vaccine to enable provincial immunization programs to go forward in selected age groups of children immediately after announcement of the results.

The increase required in production facilities at the Connaught Laboratories and the necessary steps to test the vaccine for safety and potency represented a tremendous



undertaking in terms of marshalling personnel, equipment and facilities, including the large numbers of laboratory animals required. Safety tests were duplicated by the Biologics Control and Virus Sections of the Laboratory of Hygiene to doubly assure the freedom of the vaccine from untoward incident.

At the end of the fiscal year the outlook for the Salk vaccine protecting against paralytic poliomyelitis to a significant degree was favourable. However, it was appreciated that the final answer to the poliomyelitis problem depends upon the progressively increasing use of the material and improved modifications in the originally developed vaccine. This would be forthcoming as experience and knowledge are gained in this new development in preventive medicine.

### **Tuberculosis Control**

One of the most striking trends in tuberculosis is the dramatic decline in deaths over the past few years. In the 15 years from 1938 to 1953 the number of persons dying in Canada from tuberculosis has decreased from 6,126 in 1938 to 1,810 in 1953. The death rate of 55 per 100,000 population in 1938 underwent a remarkable decline of 77% to 12.3 per 100,000 in 1953. From preliminary reports it appears that the national death rate in 1954 may have been under 10 for the first time in history.

The reasons for this striking decline in deaths are complex, but it is certain that the increasing emphasis on early case-finding and the advances in methods of treatment, notably the parallel development of antimicrobial therapy and improved surgical techniques, have been important factors.

It should be noted, however, that the decline in incidence of tuberculosis in the population has not kept pace with the decline in mortality. The highest morbidity ever recorded in Canada (128.2 per 100,000 population) occurred in 1944. In the nine years following this 1944 peak, the morbidity rate decreased 44% to 71.6 per 100,000 in 1953 but during the same nine-year period mortality decreased 74%. The period 1938 to 1953 also saw a substantial increase in the number of admissions to tuberculosis sanatoria, the 1938 admission rate of 91 per 100,000 population increasing to an all-time high of 144 per 100,000 in 1953.

Technical advances in photofluorographic equipment, permitting the rapid x-raying of large numbers of people at low cost, have made possible the striking developments in early case-finding seen in recent years. The number of x-rays taken in mass surveys in 1953 was approximately four times the number taken in 1944, while the rapid development of the general hospital x-ray program in Canada since 1950 has proven a productive method of early case-finding. It is obvious that the discovery of tuberculosis in its early stages is of benefit to the community as well as to the patient and that financial assistance under the National Health Grants program has played an important part in the control of tuberculosis in Canada.

### **Dominion Council of Health**

While a number of federal-provincial committees act in an advisory capacity to the Department on health matters, the most important of these is undoubtedly the Dominion Council of Health. This group is composed of the Deputy Minister of National Health, who acts as chairman, and the Deputy Minister or Chief Health Officer of each of the provincial health departments with an additional five members appointed by the Governor-in-Council, representing such segments of the population as may have a special interest in public health matters or who are in a position to provide the essential understanding and co-operation between professional public health workers and civic administration.

Although the Council in its semi-annual meetings deals with many problems, the outstanding example of its usefulness during the past year was undoubtedly the degree

of co-operation achieved in the field of research, production and distribution of the Salk anti-polio vaccine.

## Legislation

During the year several amendments to the Opium and Narcotic Drug Act and regulations were brought into force; and on July 1 the new Food and Drug Act and regulations was proclaimed.

## International Health

The Department continued to assume its responsibilities in international health matters in providing information and assistance to the World Health Organization and other specialized agencies of the United Nations.

## Financial Disbursements

An interesting aspect of the operation of the Health Branch is the breakdown of total financial outlay represented by the Departmental estimates. Following is a breakdown of the total estimates for the Branch for the fiscal year 1953-54, as well as 1954-55 for purposes of comparison:

	1953-54	Percentage	1954-55	Percentage
STATUTORY OBLIGATIONS.....	\$ 3,894,852	7.5	\$ 4,373,119	7.9
Quarantine and Leprosy.				
Immigration Medical Services.				
Sick Mariners Treatment Services.				
Public Health Engineering.				
Civil Service Health.				
Administration of the Food and Drugs and the Proprietary or Patent Medicines Acts.				
Administration of the Opium and Narcotic Drugs Act.				
CO-OPERATION WITH PROVINCES.....	2,332,333	4.5	2,124,185	3.8
Occupational Health.				
Epidemiology.				
Special Technical Services.				
Health Insurance Studies.				
MISCELLANEOUS GRANTS.....	154,850	0.3	168,850	0.3
Grants to Institutions Assisting Sailors.				
Grants to Health Organizations.				
GENERAL HEALTH GRANTS.....	30,000,000	57.6	31,750,001	57.2
INDIAN HEALTH SERVICES.....	15,584,530	29.9	16,920,538	30.5
NATIONAL HEALTH BRANCH-ADMINISTRATION.	139,748	0.2	162,430	0.3
	<u>\$52,106,313</u>	<u>100%</u>	<u>\$55,499,123</u>	<u>100%</u>

(Totals include Supplementary Estimates and allotment from Finance General Salaries Vote).

## FOOD AND DRUGS

### FOOD AND DRUG DIRECTORATE

#### General

The Food and Drugs Act and the Proprietary or Patent Medicine Act govern the safety, purity and quality, as well as the labelling and advertising, of all foods and drugs and the safety of therapeutic devices and cosmetics. Both Acts are administered by the Food and Drug Directorate.

The new Food and Drugs Act and Regulations came into force on July 1, 1954.

A committee has been at work reviewing the Proprietary or Patent Medicine Act for the purpose of recommending its revision. When this Act was first passed in 1908, it applied solely to secret formula preparations for internal use. Following the 1919 amendment, medicines for external use were also brought under its control, and new provisions were introduced to deal with the advertising of such medicines and to provide more efficient controls over their composition. Except for amendments to the schedule to the Act, there have been no other changes since that time.

In the past 20 years especially, there have been great changes in methods of manufacture and merchandising and in the drugs employed. The Department has also gained considerable experience in dealing with these developments.

The purpose of the revision committee has been to draft proposals for amendments that would better satisfy present-day needs and embody such provisions as responsible bodies agree are basic for the protection of the public using packaged medicines for self-medication.

Many pharmaceutical products sold in Canada are manufactured abroad although there is an active and well-organized group manufacturing drugs in this country. There is a great variety in their products and in their production and distribution facilities, as well as in the size of the companies.

Following proclamation of the Food and Drugs Act on July 1, 1954, a complete survey of the Canadian drug industry was undertaken. It is estimated that more than 350 firms are engaged in manufacturing or distributing drugs in Canada (excluding retailers). The organizational portion of this project was completed by October, 1954, and by March 31, 1955, 317 preliminary inspections had been made. Of principal importance in drug firms is the existence of a control record system which enables the manufacturer to trace his products during manufacture and to check on the raw material used in them. This preliminary survey will provide information on which to base an enforcement program.

Some publicity has been given in the press to accidental overdosage of children with headache remedies. The particular responsibility of the Department, under the Food and Drugs Act and the Proprietary or Patent Medicine Act, is to ensure that packaged medicines sold to the public are properly labelled and that the labels bear appropriate warnings when necessary and likely to be useful. It should be understood that complete protection of the public depends on the user reading the label and following the directions. Further study was given by the officials of the Food and Drug Directorate not only to preparations containing acetylsalicylic acid, for which specific directions are now required and particularly for those intended for children, but also recommendations were made regarding the labeling of other products. In addition, it was recommended that laxative pills which contained strychnine should be reformulated

to omit strychnine. Also, products containing strychnine are not now acceptable for registration under the Proprietary or Patent Medicine Act.

As a result of an investigation of mortality in children caused by ingestion of poisonous substances, the Minister issued a statement stressing that care must be taken in the handling of household chemicals which accounted for over one-third of such fatalities in children under four years of age. Incidentally, no legislation exists in Canada to compel manufacturers to draw attention to the poisonous nature of many household chemicals or to require an antidote to be named on the labels.

The tocopherol method for detecting vegetable oils in dairy products has proven very useful in discouraging this type of adulteration. During the past year only one sample of butter, out of more than 6,270 examined, had a tocopherol content in excess of the permitted level. However, there have been indications that unethical processors might be using hydrogenated and refined marine oils as an adulterant. A method has been devised which is capable of detecting as little as five per cent of marine oils in the fat of dairy products. This method is now being applied to genuine samples of butter to establish a sound basis for regulatory action.

Since Canada is actively engaged in international trade in foods, drugs and cosmetics, the Food and Drug Directorate is interested in standards established by foreign governments and international authorities. Canada imports as well as exports a great many drugs and foods. Differences in standards and labelling requirements are in themselves hindrances to international trade although some individuality is necessary because of local customs or conditions. Because of this interest in requirements of other countries, members of the Directorate have continued to take part in certain scientific or technical activities of the World Health Organization, the United Nations Narcotic Commission, the United States Pharmacopoeia Committee of Revision, the Committee on the National Formulary, the British Pharmacopoeia Commission, the Association of Official Agricultural Chemists and other foreign or international groups.

The Directorate has continued to act as distributor of International and Canadian Biological Standards.

In addition to the international collaboration, it is necessary to co-operate with other departments of government either to give assistance to them or to prevent duplication of work and confusion. Work has been done with, or for, Agriculture, Fisheries, National Revenue, Crown Assets Disposal Corporation, the Royal Canadian Mounted Police and Veterans Affairs.

The Directorate has several panels or boards of experts to advise on technical and medical problems. These include the Advisory Panel on Foods, the Advisory Panel on Drugs, the Advisory Board on Proprietary or Patent Medicines, and the Drug Advisory Committee. Members of all boards or panels are physicians, pharmacists or scientists who are university professors, clinicians or technical people in industry, in addition to representatives of the Department. They are selected because of their knowledge and also because, in many instances, the advice of independent experts not in government service is of considerable advantage. Much of the work is carried on by correspondence but the Drug Advisory Committee meets at least once a year, the last meeting having been held in Ottawa on December 3, 1954.

### **Consumer Relations and Informational Work**

Since the prime purpose of the Food and Drug Directorate is the protection of the public against health hazards and fraud in the advertising, sale and use of foods, drugs, cosmetics and medical devices, it is important that consumers should be aware of the existence of this organization so that they may know where to bring their complaints and other problems related to the subject. The officers of the Directorate speak for the public in dealing with industry and the trade, and it is important that the interests,



opinions and wishes of the public should be known to them. A close liaison with consumer groups also provides an opportunity for the government officers to explain to them the problems resulting from modern manufacturing and packaging procedures and what can reasonably be demanded under the circumstances.

The work of the Food and Drug Directorate in establishing and maintaining consumer relations has been strictly limited by lack of staff and has been confined to a program consisting of exhibits at a number of exhibitions and conventions across Canada, the preparation and distribution of a few leaflets explaining the work of the Directorate, the supplying of information on specific items to consumer groups for publication in their bulletins, a few press releases on matters of general interest, and the occasional free use of radio and press articles for explaining the purpose and work of the Directorate.

Members of the regional offices of the Directorate and the head office have given lectures to groups, including service organizations, home and school associations, professional societies and trade meetings.

Relations with other government departments both here and abroad continue to be cordial and are useful and, in many cases, necessary in administration.

Consideration is being given to the establishment in the near future of a section at headquarters to be responsible for organizing and co-ordinating the work of the Directorate in public relations so that the field may be efficiently covered.

## INSPECTION SERVICES

Inspection Services constitute the legs, hands, eyes and ears of the Directorate. The inspectors are the contact men who check import shipments at customs, visit retailers, wholesalers and manufacturers on the domestic market, read, mark and inwardly digest the labels and advertising of food, drugs and cosmetics and generally keep the Directorate advised as to what is going on in the trade.

Correction of unsatisfactory conditions is made at the source so that the inspectors must trace back from the retail market to the manufacturer any products that are not in compliance with the Act or Regulations.

There are five regional offices and 21 district offices staffed with 59 inspectors in all, both in actual field work and in a supervisory capacity. When one considers the multitude of foods, drugs and cosmetics on the market, it is readily realized that these few inspectors must be thoroughly trained to be able to converse intelligently on subjects that range from simple labelling questions on foods, through discussion of allowable therapeutic claims for drugs to inspection of manufacturing establishments for sanitation requirements. Inspectors must be able to deal with all classes of people and to explain to the satisfaction of all the regulations under the Food and Drugs Act. Inspectors are recruited from recent university graduates and must have had training in chemistry or the allied sciences. After they are hired they are further trained to deal with the special problems that are met in the enforcement of the Act. For example, in the past year members of Inspection Services from each region have had special training in sanitary inspection, and selected inspectors have had training on inspection of drug manufacturing plants. In planning enforcement activities dealing with plant inspection, since all the establishments cannot be inspected at once, a system of priorities has been set up to place at the top those plants where it is most likely that unsanitary conditions exist and where such conditions constitute the most serious health hazards.

During the past year 28 prosecutions were carried to a successful conclusion and 12 seizures made. Because the Act is new, much of the enforcement program has been of an educational nature, with a consequent decrease in court actions. The provision in the former Act that allowed voluntary settlement out of court has been omitted from the present Act, and all penalties are now the result of court action. One interesting



seizure was that dealing with a large quantity of evaporated milk that contained vegetable fats or oils, involving over \$150,000. This, following on the large number of seizures of adulterated butter last year, has shown the dairy industry that our inspectors and analysts are difficult to evade.

A total of 3,970 labels of food, drugs and cosmetics were examined along with over 200 advertisements, cartons and folders; more than 17,000 radio broadcasts, and over 2,500 T.V. audio and video scripts were reviewed.

Tables at the end of this section indicate the number of samples examined at customs and on the domestic market. These give some indication of the extent and variety of the work carried out by the inspectors.

## ADMINISTRATIVE SERVICES

The Administrative Services have the responsibility for the efficient operation of the following units:— Stores and Supplies, Stenographic and Typing Pool and the Clerical Pool. While the duties of the first two units are evident in that they are responsible for supply equipment, maintenance and repairs, drafting and duplicating and for the stenographic requirements, the clerical pool has a variety of work in the maintenance of accounts, review of travel claims, keeping of records of prosecutions and seizures, issuance of bulletins and preparing index cards on detained importations, maintenance of catalogues on labels, pharmaceutical preparations and other legislation related to food and drugs. They also are responsible for preparing and keeping up-to-date mailing lists covering 65,000 retail establishments, indices on 8,000 manufacturing concerns and 3,500 proprietary or patent medicine preparations, and the statistical punch card system.

They also supply other clerical help whenever possible to the other services, Laboratory and Inspection, by dealing with the clerical work involved in the processing of applications and renewals of drug licences, maintenance of a reference file of radio and television scripts, commercials, issuance of trade and staff information letters, field staff weekly bulletins, and processing of amendments to the Food and Drug Regulations.

In the past year, more than 110,000 questionnaires have been sent out to the retail and manufacturing establishments with regard to the issue of the new Office Consolidation of the Food and Drugs Act and Regulations; some 15,500 copies of the Consolidation have been distributed to individuals and establishments through the office of the Queen's Printer, 25 information letters sent to the trade and 17 to the field staff.

A review of the Food and Drug mailing lists is under way to find a more economical and yet more complete distribution.

## PROPRIETARY OR PATENT MEDICINE DIVISION

The Proprietary or Patent Medicine Act, administered by the Proprietary or Patent Medicine Division of the Directorate, governs the manufacture and sale of secret formula packaged medicines offered to the Canadian public under proprietary or trade names.

Registration of any drug in this class is compulsory. The manufacturer submits his qualitative and quantitative formula, stating his therapeutic claims and directions for use. This information is assessed by an intra-departmental board consisting of medical officers and pharmacologists in the Department, and if the article otherwise meets the specifications of the Act, registration may be effected.

The Proprietary or Patent Medicine Advisory Board has contributed as usual to the administration of the Proprietary or Patent Medicine Act by giving advice on the safety of drugs and the suitability of preparations for registration under the Act. The Board has also examined preparations containing alcohol in excess of 2½% submitted for regis-

tration as to their unsuitability for use as beverages and has given advice on the safe maximum single and daily doses of drugs.

Registered preparations are licensed on a year-to-year basis. This permits of an opportunity to review each preparation in the light of experience in use or advances in medical knowledge and to exercise adequate control over such preparations in the interest of the public.

Under this system of dual control by registration and licence, in operation since 1919, worthless as well as harmful products are screened out; promises of cures, and false, exaggerated or misleading claims are prohibited. The dosage of scheduled drugs must be within the limits defined by the Advisory Board; alcoholic preparations must be sufficiently medicated to (prevent) their use as intoxicants. Narcotics, barbiturates, sulphas and prescription drugs are not allowed. With respect to new drugs, the attitude of the administration is that their safety must first be established by a wide period of use, under competent supervision, before they can be considered for inclusion in a preparation eligible for registration. Preparations recommended for serious diseases are not accepted for registration.

During the year the registration of 2,929 preparations was reviewed. Out of 259 new medicines examined for registration, 181 were approved and 78 rejected. Approximately 5,000 labels, wrappers and newspaper advertisements were examined and criticized. In addition, approximately 7,000 radio commercials were reviewed in co-operation with the Canadian Broadcasting Corporation which requires that radio announcements dealing with proprietary medicines be submitted to the Department before broadcasting.

Food and drug inspectors have followed the customary procedure in taking samples of drugs from the domestic market for examination. Advice has been given to manufacturers in respect to proprietary medicines in connection with requirements under the Act. Consultation, advice and persuasion continue to be useful methods in obtaining improved standards of proprietary medicines.

## MEDICAL SECTION

In December, 1953, a medical section was established in the Directorate. The function of this section is to give advice to the Director and other officers of the Directorate on medical problems related to the administration of the Food and Drugs Act and the Proprietary or Patent Medicine Act, to maintain liaison with the medical profession and to assist in the review of new drug submissions.

The control of new drugs has been established in Canada and has met with the approval of the pharmaceutical industry as well as performing the function of protecting the public health. Drug manufacturers are required to wait until clearance has been received from the Department before marketing new drugs. A clearance may usually be given within two months, but a period of six months is set as the maximum for a decision. A tabulation of the number of submissions reviewed since the inauguration of this control is as follows,—

September 1, 1951 -	March 31, 1952 =	47
April 1, 1952 -	March 31, 1953 =	122
April 1, 1953 -	March 31, 1954 =	165
April 1, 1954 -	March 31, 1955 =	145

In addition, during 1954-55, 61 submissions were reviewed and judged not to be new drugs. This indicates that manufacturers do not market products whose status is uncertain until receiving clearance from the Department

## LABORATORY SERVICES

Laboratory services consist of six laboratories—a central one in Ottawa and regional laboratories in each of five regions. In addition, as a means of expediting the handling

of imports, sub-laboratories operate in Saint John, N.B., St. John's, Nfld., and Sydney, N.S., in connection with the Halifax laboratory. All the regional laboratories are equipped to analyze most of the samples of foods and drugs collected by the inspectors attached to the regional office, and they collaborate with the central laboratory in studies of methods and standards. The central laboratory is employed chiefly in investigational and research work for the development of standards and methods of assay or the analysis of foods and drugs, in studies of the metabolism of foods and the mode of action of drugs. It also carries out all assays requiring animal experiments and conducts special surveys of products. The central laboratory is divided into ten sections, and a summary of the investigational work conducted in each section during the year follows.

During the past year the pharmaceutical chemistry and the vitamin and nutrition sections have continued their collaboration in the study to relate *in vitro* disintegration time of coated tablets with their physiological availability.

It had been found previously that sugar-coated tablets which did not disintegrate *in vitro* in 60 minutes were not completely available to the human subjects as judged by urinary excretion of riboflavin. The absence of extra riboflavin in the urine following the ingestion of a tablet was interpreted as indicating low availability of riboflavin from that particular tablet. This work has been criticized by the Technical Committee of the Canadian Pharmaceutical Manufacturers Association for two reasons: (1) that some tablets might release their riboflavin content at such a rate that it would be utilized as quickly as it was released and, hence, would not be excreted in the urine, and (2) that a non-metabolite should have been used rather than riboflavin. Using eight human volunteers, it has been shown that for one, three and five mg. amounts of riboflavin the excretion is the same whether these amounts are taken as a single dose or in ten small doses totalling the same amount.

The non-metabolite chosen for study was sodium para-aminosalicylate. It was ingested in the form of tablets, having varying *in vitro* disintegration times. It has been found, as in the case of riboflavin tablets, that the longer the *in vitro* disintegration time, the lower is the physiological availability of the sodium para-aminosalicylate from a particular tablet. In this case it appears that tablets having an *in vitro* disintegration time of more than 65 minutes may not be physiologically available. In general, the findings on both riboflavin excretion and para-aminosalicylate excretion confirm the conclusions reached previously and support the validity of the proposed disintegration test for tablets.

The following are examples of the studies conducted in the various sections of laboratory services in the central laboratory at Ottawa. Much of the fundamental research forming part of these studies has been reported in scientific literature.

### Food Chemistry Section

The development of methods for the detection of the adulteration of dairy products has been continued. The tocopherol procedure developed in this laboratory has given excellent results in detecting the presence of vegetable oils. However, hydrogenated marine oils have properties which make them very satisfactory adulterants, but the tocopherol procedure is of little or no value in detecting their presence. It has been found that marine oils dissolved in chloroform and acetic acid give intense green to reddish colours when treated with bromine. A method based on this reaction has been developed which is capable of detecting as little as 5 per cent of hydrogenated marine oils in the fat of dairy products.

During the past year a new antioxidant, butylated hydroxytoluene, has been suggested for use in fats and fatty foods. Before recommending the addition of this material to the list of permitted preservatives, it was necessary to develop a satisfactory method



for its determination. This antioxidant was removed by steam distillation of the fat in the presence of a calcium salt, and a colorimetric technique was applied to determine the amount of butylated hydroxytoluene in the distillate.

Two hundred and twenty food products were analyzed for the flavouring component, coumarin. The procedure employed involved extraction of the flavouring ingredients, followed by the development of a paper chromatogram. The paper was then sprayed with a special reagent and examined under ultraviolet light. The coumarin appears, under these circumstances, as an intense yellowish-white spot. A total of 19 samples containing coumarin were found in this survey.

Zinc can be determined satisfactorily in food products by a spectrographic technique; but, because many laboratories do not have this type of equipment, it was considered desirable to develop a satisfactory chemical method. It was found that the bromine derivative of resorcinol, monobromoresorcinol, gave an intense blue colour with very small amounts of zinc. The techniques required for separating zinc from other metallic ions, which also react with this reagent, are now being investigated.

Considerable interest in the fluoride content of foods has been created by the evidence that this element is effective in decreasing the incidence of dental caries. Therefore, an investigation was undertaken to develop a more satisfactory method for determining fluorine in food. It was found that the fluoride ion will bleach the pink colour of a ferric salicylate solution and that the decrease in colour is proportional to the fluoride present. Some interferences were encountered when this method was applied to certain food products, and this phase of the problem is now under study.

The polyoxyethylene emulsifying agents, which are added to foods to improve their texture and keeping quality, can be precipitated by compounds such as phosphomolybdic acid. A method for the determination of these compounds has been developed based on the weight of the precipitate obtained. However, this procedure is time-consuming, and significant errors can result from the precipitation of substances other than polyoxyethylene derivatives. A colorimetric method based on the determination of the molybdenum in the precipitate has been successfully applied to the analysis of bread samples.

### Microbiology Section

Laboratory studies to determine preferred methods for rapid determination of the sanitary bacteriology of food factories have been completed and their accuracy established for recovery of five "indicator" bacterial species from six types of factory surfaces.

A survey of the antibiotic resistance of staphylococci and streptococci in market cheese has established that this product may well serve as one source of human infections with strains of these two genera that are resistant to penicillin and dihydrostreptomycin even though the patients have never received antibiotic therapy. This condition seems to stem from the widespread use of these antibiotics among dairy cattle.

The specific toxin-producing potentialities of pathogenic staphylococci from hospital sources and from market cheese have been shown to be similar. Comparative determinations have been made to establish the correlation between the indicator tests for pathogenic staphylococci, viz., the presence of the coagulase and phosphatase enzymes, the production of hemolysins, dermonecrotic and lethal toxins, and enterotoxin (food poisoning). The reliability of the phosphatase indicator test appears to have been over-emphasized in the past.

Heterologous antigenicity of enterotoxins from different strains of staphylococci has been established. The dependability of the cat test for enterotoxin has received further confirmation; critical values for the concentration of *B*-hemolysin that could cause an emetic reaction in cats have been established; a method for the selective inactivation of *B*-lysin with ascorbic acid prior to testing for enterotoxin has been developed. Analy-

sis of different strains of staphylococci, of "purified" toxins, and various cellular fractions are being made by infra-red spectroscopy.

The microbial species aetiologically associated with the middle-ear disease of laboratory rats have been shown to be *Pasteurella multocida*, *Streptobacillus moniliformis*, *Diplococcus pneumoniae*, *Micrococcus pyogenes* and "diphtheroids". Neither therapy with multiple antibiotics nor the use of polybacterins have been dependably successful in control of the disease.

Micro-organisms that produced anticoliform antibiotics have been isolated from the intestine of a rat that had an atypical intestinal flora.

A contribution to the Civil Defence training program was made through lectures at the Arnprior Civil Defence College and written submissions on "Civil Defence: (1) Measures for the safe handling of foods (2) Foods as a vehicle for disease in bacterial warfare (3) Hazards from radio-activity in foods".

The personnel of the Microbiology Section has given lectures and practical training to the members of Inspection Services on the assessment of the sanitary conditions of food processing and storage plants. It has taken part in a number of provincial conferences on factory and food sanitation to assure mutual assistance and understanding of the interests of provincial and federal departments.

A review, "Foods and Feeds from Fungi", has been prepared and published in the Annual Review of Microbiology.

The following papers accepted for publication include a series of three on staphylococcal toxins, "Middle-ear disease of Rats", "Microbiological Standards for Foods: their function and limitations", "Botulism and Methyl-alcohol Poisoning", "The Content in Cheese of Extraneous Matter and Bacteria of Public Health Significance", and "The Resistance of Staphylococci and Streptococci Isolated from Cheese to Seven Antibiotics".

### Vitamin and Nutrition Laboratory

During the past year a survey was made to ascertain the potency of representative multivitamin preparations available in Canada. Three capsules, four tablets and three liquids were examined. Several samples of each product were purchased from druggists in Ottawa and Montreal and analyzed for vitamin content. The analysis indicated that vitamin A, vitamin B<sup>12</sup>, thiamine and pantothenic acid were particularly unstable in certain mixtures. Riboflavin, niacinamide and pyridoxine were much less affected by storage conditions. It was found that more than one-third of the 80 samples procured were more than one year old and that at this age the potency of some of the vitamins in the products had begun to drop significantly.

To obtain conclusive information on the shelf age of vitamin products, a comprehensive survey was carried out in 21 centres from Victoria, B.C., to St. John's, Nfld. The lot numbers of all multivitamin products of six of the larger Canadian manufacturers were listed from samples on the shelves of at least three drugstores at each location. The survey indicated that about 50 per cent of the samples were more than one year old. About 25 per cent. were more than two years old. Twenty of the 6,000 samples listed were more than 10 years old.

These studies indicated the need for still more effective analytical control in addition to more effective merchandising practices. The use of an expiration date was suggested for such products to ensure that they would not remain on drugstore shelves for an excessively long time and that the consumer would obtain full labelled potency.

Continued study has been given to the effect of thiamine in lowering the response to vitamin B<sup>12</sup> in the assay using *Escherichia coli* 113-3. Thiamine is destroyed and the



effect removed when sodium *meta*-bisulphite extraction is employed prior to assay. The *E. coli* procedure is much simpler to handle than the *L. leichmannii* assay and has been found to give equally accurate results and is recommended for use where interfering materials are absent, as is the case in many pharmaceuticals. The effect of thiamine on the response to vitamin B<sup>12</sup> is evidently not related to destruction of the latter but rather is a direct one on the metabolism of the *E. coli* organism. Advantage has been taken of this finding to study the role of vitamin B<sup>12</sup> and related substances in metabolism.

Microbiological procedures for the estimation of pantothenic acid and panthenol have been studied. As a result of a collaborative assay all regional laboratories are now in a position to carry out pantothenic acid assays.

Studies of the effect of aureomycin on the vaginal smear assay for vitamin A have been continued. In this assay the "sparing" effect on vitamin A amounts to about 25 per cent. Aureomycin also increases weight and age at depletion and survival time but does not appear to increase liver storage. The effect of aureomycin does not seem to be exerted on the absorption of the dose of vitamin A. It is influenced by the source of carbohydrate in the diet. Aureomycin also has a positive effect on both calcification and growth in the vitamin D rat assay.

Continued studies on the utilization of iron in flour by anemic rats have shown that high levels of calcium in the form of phosphate, lactate, carbonate and chloride retard hemoglobin formation, particularly at low levels of iron. At the levels used phosphorus, in the form of sodium salts, had no effect. The amounts of calcium permitted in enriched flour had no effect on the hemoglobin levels of normal rats. Data on the composition of the livers of the rats are being compiled and studied.

Collaborative studies with the National Research Council on the nutritive value of fats indicate that fat mixtures having a composition similar to that of the body fat of rats produces better growth than other mixtures. These studies are being continued.

### Cosmetics, Colours and Alcoholic Beverages Section

The use of artificial colours in foods and the suitability or otherwise of certain colours for such use has been attracting the attention of regulatory bodies in many countries. Much of the time of this Section has been taken up with studies of various aspects of this subject. New methods of separation and analysis have been devised and papers dealing with these have been published. All imports of colours from Europe have been examined and only colours meeting the requirements of the Act have been admitted and certified.

The activities of the alcoholic beverages section have included the investigation of the chemistry and determination of the small amount of cyanide sometimes found in wine, the determination of the extremely minute amount of methanol that seems to be present in almost all samples of ethanol, and a review of the composition of Scotch whiskeys on the Canadian market.

Apart from collaborative studies of methods of analysis with the United States Food and Drug Administration, there has been little activity in cosmetics this year. Practically no complaints of irritation from the use of cosmetics have been received.

### Pharmacology and Toxicology Section

Chronic toxicity studies of a number of food colours and smoke flavours are continuing. Recently, studies on Oil Yellow OB and AB were completed and a paper on this work has been prepared for publication.

The second chronic toxicity trial in rats of four chemicals used or proposed for use in bread, in which the chemicals were added directly to the ration, generally confirmed the previous trial, in which the additives were baked into bread and the bread added to the ration. The results of both experiments have been published.

Polyvinylpyrrolidone was studied for its ability to enable excretion by the kidney of materials not normally excreted by this route (the so-called embathic effect). These studies indicated that polyvinylpyrrolidone does exert some embathic effect.

Studies on the drug retardant action of a pectin derivative thus far have not been particularly encouraging.

Preliminary investigations of assay procedures for the proteolytic enzymes, trypsin and chymotrypsin, have been made with a view to developing assay methods of improved precision and specificity.

Detailed analyses of 21 different lots of dextran plasma expander from eight companies have been largely completed, and specifications for use by government departments in the purchase of dextran and polyvinylpyrrolidone have been drawn up. Official methods for use in conjunction with these specifications have been established.

Investigations were continued during the year on animal tests for detecting agranulocytosis-producing drugs. These studies were carried out in rabbits. On the doses used, aminopyrine (a well-known agranulocytosis-producing drug) increased the granulocyte count in the blood and caused a slight hyperplasia of the bone marrow as shown with hemacytometrical procedures and desoxyribonucleic acid determinations. However, in rabbits treated with aminopyrine and myleran definite reduction in the granulocyte count and significant hypoplasia of the bone marrow were observed. These findings would seem to explain the low incidence of agranulocytosis among the users of aminopyrine. In other words, agranulocytosis occurs probably only in patients with bone marrow rendered susceptible to aminopyrine by some toxic agents having an action similar to myleran. Such a "double insult" approach may also be useful in detecting in animals the agranulocytosis-producing property of other drugs. Its usefulness is being explored.

Commercial epinephrine hydrochloride solutions were assayed for their bronchodilator and vasopressor activities, and three lots had lower bronchodilator activity than the standard, indicating the presence of norepinephrine in these lots.

A survey of digitoxin tablets available in Canada was carried out using the official method of assay and a new chemical method to be included in the U.S.P. XV. Results showed that two of 18 products failed to meet present requirements. The new U.S.P. XV method is more stringent and would exclude 11 of the 18 samples on the basis of low digitoxin content. It was found to be an accurate method for the determination of digitoxin provided a modification in the extraction procedure was applied.

A survey of Rauwolfia Whole Root products sold in Canada was completed. A standard for each brand and a method based on the hypotensive response in roosters were used to carry out the survey. All brands were found to be uniformly potent from one lot to another, but the potency between brands is suspected of being variable.

Further study was given to the rat blood pressure method for the assay of vasopressin. This work was carried out in co-operation with the Committee on Physiological Testing of the American Pharmaceutical Association. Further studies are needed to determine among other things which anaesthetic is the most suitable and how it is best administered to insure prolonged uniform anaesthesia.

Assistance was given the Pharmaceutical Chemistry Section in an investigation of methods for the detection of particles in ampouled solutions.

### Physiology and Hormones Section

A method involving the thyroïdal uptake of radio-active iodine by weanling rats was employed in the collaborative assay of the proposed International Thyrotrophin

Standard. The potency obtained by this procedure agreed closely with that assigned to the new standard as a result of the collaborative effort.

Further work on the assay of corticotrophin by the thymus involution method has been undertaken, and attempts have been made to correlate the thymolytic activity of hydrocortisone with that of corticotrophin in the weanling rat.

A bioassay for adrenal cortical hormones employing thymus atrophy as the response has been published. This method was used in a survey of pharmaceutical adrenal corticoid preparations consisting of tablets, ointments, lotions and extracts. The thymus involuting activity of the following corticosteroids has been determined relative to hydrocortisone: hydrocortisone acetate, hydrocortisone-t-butyl acetate, cortisone, cortisone acetate, corticosterone, 17-hydroxy-11-deoxycorticosterone 11-deoxycorticosterone, and adrenosterone. In this series, it was found that both an alpha ketol group at carbon 17 and an oxygen atom at carbon 11 of the steroid nucleus were necessary for the production of thymus atrophy. A hydroxyl group at carbons 11 and 17 enhanced the thymolytic action of the corticosteroids. The synthetic compounds, prednisone and 9-alpha fluorohydrocortisone, were also investigated and found to be very much more potent than the naturally occurring adrenal cortical hormones. The steroid components of an adrenal cortical extract have been separated and identified by means of paper chromatography using a toluene-propylene glycol solvent system, and the amount of steroid in each spot on the chromatogram is being studied.

The detection of estrogenic substances in poultry has been investigated extensively. A qualitative test for the presence of plasmalogen in the body fat of estrogenized chickens and turkeys has been developed and used in a comprehensive survey of both domestic and imported poultry. The procedure was employed on fresh and frozen specimens. The method was tested collaboratively in the regional laboratories and found to be reliable and practical for detecting poultry treated with estrogenic substances. The plasmalogen test was consistently negative in capons, in untreated males, and in hens which were not in egg production. The epidermal fat of poultry which gave a positive plasmalogen test was extracted and assayed biologically using the increase in the uterine weight of the 21-day old female rat as the response. This method is able to detect as little as 0.015 microgram of either diethylstilbestrol or hexestrol, and 0.3 microgram of estrone. An excellent correlation was observed between the positive plasmalogen tests and a significant increase in the uterine weight of the weanling rats after administration of the extract of epidermal fat. Other phases of this problem are under investigation such as the water and fat content of the muscle and skin of chickens given diethylstilbestrol, the physiological mechanism involved in the production of plasmalogen by estrogens, and the detection of phospholipids in the body fat of the treated birds.

Experiments with castrated hypophysectomized male rats have demonstrated that diethylstilbestrol stimulates the accessory sex organs when the testes are present but has no effect when the gonads are absent.

Identification tests for various steroid compounds were investigated for both the International and the United States Pharmacopoeias.

The bioassay of insulin by the mouse convulsion method received further study. The logistic function was found to provide an estimate of the relative potency and its standard error which was in all cases almost identical with that obtained with probits. A collaborative assay is under way to establish the potency of the proposed Fourth International Insulin Standard.

Additional toxicity tests in mice have shown the toxin in lyophilized scallop liver extract to be stable for at least three years when kept dry and cold.



## Pharmaceutical Chemistry Section

In view of the importance of non-aqueous techniques for the assay of drugs and commercial pharmaceutical preparations, considerable time was devoted to the development and application of assays based on the principles of non-aqueous titrimetry.

Continuing from last year, a method for determining codeine phosphate in combination with acetylsalicylic acid, phenacetin and caffeine was developed. In conjunction with this a market survey showed that in almost every instance the codeine phosphate content of these tablets met labelled claim. Publication of the procedure has aroused considerable interest.

The studies on ox bile and the bile acids have led to the development of a non-aqueous procedure that has been applied successfully to the determination of cholic, desoxycholic and dehydrocholic acids. Some market samples were assayed in conjunction with this work, and all were satisfactory.

In addition to the foregoing, two projects concerned with non-aqueous solvents were completed. The first dealt with the purification of certain solvents by use of ion exchange resins and has been published, and the second showed the behavior of a number of organic bases in nitromethane. This work has been accepted for publication.

A study of the stability of oily sprays was undertaken. It was demonstrated that the products showed no change in potency over a 15-month period when N.F. storage requirements were complied with. The purity of the starting materials was an important factor, and considerable work was done on several brands of light liquid paraffin to determine the desirable characteristics of a suitable oil.

A satisfactory method for the zinc oxide content of calamine lotion was developed which has been found satisfactory to the regional laboratories. The procedure has been published in the scientific literature.

Studies on the disintegration of enteric coated tablets were published showing that 60 per cent. of those tested did not meet the definition of an enteric coated tablet. In addition, the disintegration times of further samples of compressed and sugar-coated tablets were investigated.

Collaborative work for the British Pharmacopoeia Commission, the Revision Committee of the United States Pharmacopoeia and the World Health Organization, as well as other agencies, has been conducted at various times throughout the year.

Of 65 pharmaceuticals analysed for enforcement purposes, 54 were satisfactory and 11 unsatisfactory; 26 samples were analyzed for the Department of National Defence, the Department of Veterans Affairs, the Ontario College of Pharmacy or because of consumer complaints. Technical information was provided for four successful prosecutions.

## Organic Chemistry Section

Narcotic and barbiturate drugs have been studied intensively by means of infra-red, ultra-violet and x-ray diffraction methods. Physical-chemical data for more than 100 narcotic compounds have been collected by the laboratory and published by United Nations. Chemical characterization and infra-red studies of the pyridine-copper sulfate-barbiturate complexes of clinically important drugs have been completed and published.

Opium ash has been analysed spectrographically by the Food Chemistry Section and, using the flame photometer, the overall composition in terms of percentages of the elements and anions was determined. Criteria have been obtained from this data which, correlated with the country of origin of the opium, have enabled the determination of origin of a number of seizures and of unknowns. This work was reported by one of



the members of the section to the Commission on Narcotic Drugs at United Nations and has led to the adoption by the Commission of a resolution recommending the application of the methods on an international scale. This step has been taken largely on the basis of the work done in Canada.

Electrophoresis has been applied as a method for the analysis of opium and blood serum protein. This work was done in collaboration with the Physiology and Hormone Section.

Photomicrography of a large number of opium samples was undertaken, and an atlas of pictures has been compiled for publication.

Identification tests for the new synthetic analgesics are being investigated.

*Cannabis sativa*, L. has been studied and a spectrophotometric method of analysis devised for the analysis of the resinous, narcotic principle by means of ultraviolet absorption of cannabinoids.

### **Biometrics Section**

The functions of this section are to devise statistical methods for sampling foods and drugs, to prepare mathematical designs for biological tests and analyse results of such tests, to evaluate the reliability or significance of results of clinical trials or tests for effectiveness and safety of drugs and treatments, to assist the scientific staff of the Directorate in matters requiring a knowledge of mathematics and statistical theory.

Since it has not been possible to obtain a replacement for the statistician heading this section, who left in 1953, the work of the section has been curtailed. However, assistance, for which the Directorate is deeply grateful, has been obtained from the Biometrics Section of the Division of Applied Biology of the National Research Council in dealing with some of the more urgent problems. Other problems have had to be passed over until a qualified biometrician can be obtained.

### **Animal Pathology Section**

Over 6,600 sections of tissue were examined during the year. The tissues were principally from animals on feeding trials of food colours, bread additives, agranulocytosis-producing drugs and curing substances from meats. Several specimens obtained from canned foods and meat products and suspected of containing parasites or foreign material of animal origin were sectioned and identified microscopically.

A method for the histochemical staining of plasmalogen in frozen sections of fat is under investigation.

A method was developed for the X-ray diagnosis of middle-ear disease in rats by which a colony free of middle-ear disease is being bred. In collaboration with the Microbiology Section, the age of infection and the types of infecting organisms were determined. The efficacy of antibiotics used alone and in combination in combatting middle-ear disease was also determined.

In collaboration with the Occupational Health Laboratory an investigation into the nature of an apparently inherited nervous disorder in rats is being carried out.

Infectious diseases encountered in the animal colony were controlled with minimal losses. A program of preventative vaccination against canine distemper and feline panleukopenia has kept these diseases under control in the colony.

TABLE 1

(Food and Drug Directorate)

## DRUGS EXAMINED

From: April 1, 1954 to March 31, 1955

Laboratory	Domestic				Imports			
	Samples	Adulterated	Misbranded	Other Infractions	Shipments	Adulterated	Misbranded	Other Infractions
Halifax.....	107	.....	4	56	574	.....	62	457
Montreal.....	233	38	56	70	5,071	.....	285	477
Ottawa.....	392	65	78	.....	10	.....	.....	.....
Toronto.....	307	16	94	.....	656	7	552	44
Winnipeg.....	64	23	13	7	857	4	537	450
Vancouver.....	761	33	64	262	445	20	114	257
Totals.....	1,864	175	309	395	7,613	31	1,550	1,685

TABLE 2  
(Food and Drug Directorate)  
EXAMINATION OF DOMESTIC FOODS  
From: April 1, 1954 to March 31, 1955

	LABORATORIES						Adult- erated	Mis- branded	Other Infractions	Totals
	Hali- fax	Mont- real	Ot- tawa	To- ronto	Win- nipeg	Van- couver				
Alimentary Pastes.....				6	8	1	3	1		15
Baking Powder, Leavening Agents or Chemicals.....	10				1				1	11
Bakery Products—Cakes, Pastry. Beverage & Beverage Concen- trates.....	5		129	160	4	3	17	13	2	301
Bread, Flour & Cereals.....	16	217	47	84	46	57	45	61	14	467
Breakfast Foods.....	159	111	27	90	13	92	21	92	138	492
Confectionery.....			1	4			1	1		5
Dairy Products.....	5		16	139	15	6	19	15	3	181
Dessert Powders & Mixes.....	359	7178	93	216	354	178	535	18	648	8378
Eggs & Egg Products.....			42	71	19	38	22	61	1	170
Fish & Fish Products.....			2			3				5
Food Colours & Flavours.....	119	8	15	18	9	48	18	11	17	217
Foods, Oriental.....	122	40	35	1	20	33	45	13	85	251
Fruits, Fresh.....	9					1	1		9	10
Fruits, Canned.....	57		5		5	1	3	3	3	68
Fruits, Dried.....	27		7	398	10	64	6			506
Fruits, Glazed or Candied.....	61		1	4	17		11	2		83
Gelatin.....						4	3			4
Honey & Honey Products.....	3		4						3	7
Jams & Jellies.....	11				1	1		2	3	13
Juice & Syrups.....		3	65	271	7	3	102	8	1	349
Lard & Shortening.....	198	29	11	5	16	97	5	58	12	356
Liquors, Distilled & Fermented...	1		1	5				2	1	7
Meat & Meat Products.....	81	2	3	4	1	10			36	101
Nuts.....	148	416	99	239	362	346	184	28	81	1610
Oils.....	1		3	2	12		9		1	18
Pickles.....	7		5	1				2		13
Preservatives.....	1	2	7		4		8	2	1	14
Salad Dressings, Sandwich Spreads & Other Condiments...										
Soup & Soup Mixes.....	3	3	8	13	8	33	2	14	3	68
Spices.....	2		6	7	4		1	2		19
Sugar & Substitutes.....	35	1	6	180	82	96	27	4	14	400
Sweeteners, Artificial.....	1		3	1	2	2	1			9
Syrups & Molasses.....			2			28	2	2		30
Vegetables, Canned.....	29		1	1	1	2	6		2	34
Vegetables, Dried and Frozen.....	4	1	5	520	20	91	15	12	4	641
Vegetables, Fresh.....	3			3	3	5	7			14
Vinegar.....			2	4	8	10	6			24
Water.....	8			20	1	19	1	7		48
Miscellaneous.....	3					18				21
Dairy Products (Dairy Division).....	8		16	5	13	50	1	7		92
Grand Totals.....	1,496	8,011	665	2,999	1,066	1,340	1,505	441	1,083	15,577

TABLE 3  
(Food and Drug Directorate)  
EXAMINATION OF IMPORTED FOODS  
From: April 1, 1954 to March 31, 1955

	LABORATORIES						Adult- erated	Mis- branded	Other Infra- ctions	Totals
	Hali- fax	Mont- real	Ota- tawa	To- ronto	Win- nipeg	Van- couver				
Alimentary Pastes.....		1				3				4
Baking Powder, Leavening Agents or Chemicals.....	4				1			1	1	5
Bakery Products—Cakes, Pastry..	62	4		10	31	16	15	22	11	123
Beverage & Beverage Concen- trates.....	75	4		23	67	64	6	39	11	233
Bread, Flour & Cereals.....	9	5	3	16	4	17	13	16	3	54
Breakfast Foods.....				1				1	1	1
Confectionery.....	276	86		111	201	218	24	110	57	892
Dairy Products.....	40	2		58	13	51	12	62	26	164
Dessert Powders & Mixes.....	3			43	26	34	18	52	2	106
Eggs & Egg Products.....						1		1		1
Fish & Fish Products.....	39			555	141	202	106	26	40	937
Food Colours & Flavours.....	18			6	36	15	2	36	3	75
Foods, Oriental.....	11								5	11
Fruits, Fresh.....	4	3		1						8
Fruits, Canned.....	22	1		36		13	2	4	8	72
Fruits, Dried.....	1,905	837		134	866	531	150	8	1,065	4,273
Fruits, Glazed or Candied.....						3				3
Gelatin.....				19		19	22			38
Honey & Honey Products.....	2					13		2		15
Jams & Jellies.....				1	6	120	5	8		127
Juice & Syrups.....	13				5	78	1	23	1	96
Lard & Shortening.....	1			7			1	1		8
Liquors, Distilled & Fermented..	2					1				3
Meat & Meat Products.....	206			32		148	10	1	15	386
Nuts.....	1,075	2,619		82	1,260	722	20	3	167	5,758
Oils.....	7	59		5	2	4	2	5	2	77
Pickles.....	5			1	19	1		3		26
Preservatives.....										
Salad Dressings, Sandwich Spreads & Other Condiments..	10			2	6	23	3	5		41
Soups and Soup Mixes.....	3			1		7	1	2	3	11
Spices.....	165	468		32	126	111	13	13	65	902
Sugar and Substitutes.....	22			1			7			23
Sweeteners, Artificial.....	4			1				1		5
Syrups and Molasses.....	119	54		2	2	5		7	1	182
Vegetables, Canned.....				2		7	2	2		9
Vegetables, Dried and Frozen....	43			7	9			7	10	59
Vegetables, Fresh.....				1	1					2
Vinegar.....	5	46		1		6	1	5	3	58
Water.....		1		1				1		2
Miscellaneous.....	63			10	28	11	11	29	46	112
Grand Totals.....	4,213	4,190	3	1,202	2,850	2,444	447	496	1,546	14,902



## NARCOTIC CONTROL DIVISION

Pharmaceutical firms authorized to manufacture and distribute narcotic products in Canada extended close co-operation to the Department in ensuring that adequate supplies of narcotic medication were maintained during the year. No difficulties were experienced when attempting to provide sufficient medication of a narcotic nature for the medical needs of this country. This satisfactory situation, of course, could not have been achieved without assistance from the countries from which the material was obtained. The United Nations Narcotic Commission also played an important part in providing the necessary machinery of control covering the movement of drugs between countries.

On the recommendation of the World Health Organization, a decision was reached to cease issuing licences permitting heroin to be imported into Canada subsequent to January 1, 1955. This policy has also been followed by a great many countries which are members of the United Nations. In fact, at the present time only a very limited number of countries still allow this opiate to be available because of its marked and potential addiction properties. It is estimated that some heroin supplies will continue to be accessible to the medical profession in Canada during 1955, but after the quantities of the drug presently on hand are exhausted, there will be no further material allowed to enter the country.

Another development during the year was the bringing into force of amendments to the Opium and Narcotic Drug Act and the Regulations made thereunder. Two important amendments were made, with minor consequential changes automatically being required. To assist enforcement officers in a fight to stamp out illicit activities in drugs, an amendment to the Act created the offences of trafficking in drugs or being in possession for the purpose of trafficking. The maximum penalty for either of these offences is 14 years' imprisonment. The other important amendment to the Act made provision under the Regulations for pharmacists to be permitted to dispense certain types of medication having a narcotic content in combination with other medicinal ingredients on the strength of a verbal order issued by a physician. Previously, a prescription signed and dated by the attending physician of the patient was required before a pharmacist could legally release narcotic medication. This stringent requirement caused some hardships on patients, physicians and pharmacists, and some measure of relief was needed. From a control standpoint, no difficulties are anticipated as a result of allowing certain innocuous preparations with a small narcotic content, such as cough mixtures and mild oral analgesics, to be dispensed on a verbal prescription issued by a physician.

The staff of the Division spent considerable time reviewing available records relative to known addicted persons. Several hundred files were scrutinized, and the installation of a new system was completed providing a more accurate and complete method of tabulating information about the number of addicted persons known to the Department. Additionally, other valuable information about their background and activities will be incorporated in this system. The results already accruing from this work indicate conclusively that the problem of addiction is not necessarily a major one, nor has there been any noticeable increase in the number of addicts.

As in the past, heroin was the drug involved in the great majority of narcotic cases where a conviction was registered. During the calendar year 1954, 340 convictions were recorded and 323 involved heroin. This material was undoubtedly smuggled into Canada and originated in countries where national control is not necessarily of a high standard.

## Control of the Legal Domestic Trade

As previously stated, licensed distributors in Canada, of whom there were 155 in the year under review, ensured that adequate supplies of drugs were kept on hand at all times. A total of 138 licences to import were issued by the Department. The chief sources of supply were Great Britain, the United States, India and The Netherlands. Additionally, 55 licenses permitting export of narcotic material were granted to licensed dealers. The chief destination of export were Bermuda and British Guiana.

Each licensed dealer was required to submit monthly reports of sales. All such sales were checked and recorded on individual purchase cards which are maintained for every physician, pharmacist, veterinary surgeon, dentist and hospital entitled to purchase drugs. Over 34,000 cards are maintained, and more than 135,000 entries were made on these cards.

Three pharmacist auditors checked records, stock on hand and security measures at the premises of 140 licensed dealers. Moreover, approximately 900 hospitals were inspected by auditors who also conducted 75 interviews of a confidential nature.

Estimated consumption of narcotic drugs, as well as the amounts of material imported, are outlined in Tables 6 and 7 appended.

## Control of Retail Pharmacies

Normally, three narcotic sales reports, each covering a four-month period, are received from retail pharmacists across Canada each year and are carefully checked. Activities in this field, however, were somewhat curtailed during the year to permit the installation of a completely new system of indexing known addicts. The forced lull in the regular review of the sales reports program has produced abundant evidence of the importance and value of this work. It is now known that there has been some increase in the number of cases where large doses of narcotics had been routinely prescribed which might not have developed if an early enquiry had been made into the circumstances necessitating the prescribing of the medication. The routine of scrutinizing these reports has now returned to normal, and the Division is again receiving and processing nearly 1,000 reports monthly from pharmacists. The program will automatically permit a close scrutiny of the quantities of narcotic medication being prescribed by physicians and dispensed by pharmacists.

All registrars and other members of various pharmaceutical and medical associations across Canada extended the closest co-operation in keeping the Department informed concerning additions to and deletions from the lists of registered members.

During the year, the Division was visited by several persons from other countries who are in some way connected with narcotic control work. These visitors, without exception, expressed considerable interest in Canada's methods of control over the distribution of narcotic supplies.

## Convictions

In the calendar year 1954 there was a slight drop in the number of narcotic convictions recorded, the total being 340 as compared with 402 during the judicial year ending September 30, 1953. From October 1 to December 31, 1953, an additional 99 convictions were registered. For purposes of uniformity, however, statistics of narcotic convictions will, in the future, be compiled on a calendar year basis rather than a judicial year, as was the practice in the past.

Of the 340 convictions during the calendar year 1954, 296 were for illegal possession, 22 for illegal sale, two for obtaining prescriptions from more than one physician, seven were for trafficking and 13 for possession for the purpose of trafficking. These

latter two types of convictions were possible as a result of the amendments to the Opium and Narcotic Drug Act, and the sentences imposed upon those convicted of the offences were lengthy, ranging in the majority of cases from seven to 14 years. The drugs involved in the successful cases were as follows: Heroin 324; Morphine 8; Demerol 3; Marihuana 3; Methadone 2.

One citizen of Switzerland and eight American citizens were involved, the remainder being Canadians. Sentences awarded were as follows:

Fine only .....	2
6 months to less than 2 years .....	176
2 years and less than 5 years .....	115
5 years and less than 7 years .....	28
7 years and less than 14 years .....	19

A summary of conviction statistics appears in Table 4 which follows.

### International Co-operation

All information and reports required by the United Nations Narcotic Commission regarding narcotic control were submitted routinely. Additionally, 50 reports covering major narcotic cases were also prepared and forwarded to the Commission for transmission to other countries.

TABLE 4  
(Narcotic Control Division)  
CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT FOR THE CALENDAR YEAR 1954

PROVINCE	NATURE OF OFFENCE					DRUGS INVOLVED						
	Illegal possession	Illegal sale	Obtaining Rx's from more than one physician	Traffic- ing	Possession for the purpose of trafficking	Total	Heroin	Mor- phine	Mari- huana	Deme- rol	Metha- done	Total
Newfoundland.....												
Prince Edward Island.....												
Nova Scotia.....	1					1	1					1
New Brunswick.....												
Quebec.....	25	3	1	6		35	33		1	1		35
Ontario.....	65	11		1	3	80	73	4	1		2	80
Manitoba.....	7					7	7					7
Saskatchewan.....	4					4	3			1		4
Alberta.....	18	2			1	21	18	3				21
British Columbia.....	176	6	1		9	192	189	1	1	1		192
TOTALS.....	296	22	2	7	13	340	324	8	3	3	2	340

Additional penal sections included in Opium and Narcotic Drug Act Effective June 19, 1954.



TABLE 5  
(Narcotic Control Division)  
CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT FOR THE PERIOD  
SEPTEMBER 30, 1953 TO DECEMBER 31, 1953

P R O V I N C E	N A T U R E   O F   O F F E N C E			D R U G S   I N V O L V E D						
	Possession of Drugs	Selling Offering Giving Away and Delivery	Totals	Opium	Poppy Heads	Metha- done	Heroin	Mari- huana	Morphine	Totals
Newfoundland.....										
Prince Edward Island.....										
Nova Scotia.....										
New Brunswick.....										
Quebec.....	3		3	1			2			3
Ontario.....	28	1	29			2	23	2	2	29
Manitoba.....	6		6				5		1	6
Saskatchewan.....	2		2				2			2
Alberta.....	3		3		3					3
British Columbia.....	52	4	56				55		1	56
TOTALS.....	94	5	99	1	3	2	87	2	4	99

TABLE 6  
(Narcotic Control Division)  
IMPORTS OF MAIN NARCOTICS  
FOR PERIOD 1945-1955 INCLUSIVE

Unit of Weight — Ounce, Pure Drug.

Year	Raw Opium	Medic- inal Opium and Preps.	Mor- phine	Heroin	Cocaine	Ethyl Mor- phine	Dilau- dide	Papav- erine	Codeine	Pholo- deine	Pethi- dine	Dro- moran	Nisentil	Metha- done
1945.....	4,000	3,842	4,791	762	361	1,195	19	571	23,122	.....	2,085	.....	.....	.....
1946.....	4,000	4,614	1,181	1,020	1,797	664	23	805	35,885	.....	5,539	.....	.....	.....
1947.....	3,360	6,458	1,046	906	2,169	745	18	961	36,915	.....	9,018	.....	.....	.....
1948.....	3,200	3,040	3,013	1,019	993	919	26	2,809	34,058	.....	5,175	.....	.....	892
1949.....	1,720	3,202	3,108	906	666	1,433	11	943	37,751	.....	4,106	.....	.....	1,068
1950.....	1,609	4,000	2,337	748	1,344	1,207	21	1,292	93,269	.....	5,480	.....	.....	92
1951.....	1,928	4,423	3,076	1,014	1,053	1,098	17	1,672	37,274	.....	9,189	.....	.....	73
1952.....	53	5,200	1,173	991	1,122	1,403	15	1,518	58,098	.....	12,343	.....	.....	329
1953.....	1,744	3,768	2,760	819	1,750	1,108	13	1,540	40,682	21	11,400†	28	93	208†
1954.....	208	5,280	2,134	832	1,704	1,389	7	2,996	99,273	627	20,884	20	56	324

† Pure Drug figure utilized in 1953.

TABLE 7  
(Narcotic Control Division)  
ESTIMATED CONSUMPTION OF THE MAIN NARCOTICS  
FOR THE PERIOD 1945-1954 INCLUSIVE

Unit of Weight — Ounce, Pure Drug.

Year	Raw Opium	Medic- inal Opium and Preps.	Mor- phine	Heroin	Cocaine	Ethyl Mor- phine	Dila- vide	Papav- erine	Codeine	Pethi- dine	Phol- Codeine	Metha- done and Preps.	Levor- phan	Nisenti
1945.....	3,175	6,314	3,351	670	1,305	691	12	381	22,809	1,102	.....	.....	.....	.....
1946.....	3,422	4,797	3,492	1,058	1,552	1,110	22	455	36,191	2,045	.....	.....	.....	.....
1947.....	3,932	4,734	3,090	881	1,390	1,107	15	715	36,484	5,894	.....	.....	.....	.....
1948.....	2,090	6,026	3,074	995	1,407	1,032	22	1,416	39,672	5,642	.....	.....	.....	.....
1949.....	2,010	3,606	2,718	898	1,197	949	16	1,359	44,443	6,852	.....	385	.....	.....
1950.....	2,330	5,375	2,613	1,000	1,408	1,103	16	1,632	45,582	7,270	.....	397	.....	.....
1951.....	2,020	5,693	2,525	928	1,270	1,561	15	1,362	56,384	8,916	.....	454	.....	.....
1952.....	2,045	5,925	2,539	776	1,340	775	20	2,046	63,345	10,087	.....	388	29	.....
1953.....	762	5,036	2,692	828	1,412	1,582	21	1,691	53,199	10,512*	8	312*	34*	29
1954.....	1,819	5,574	2,470	992	1,171	593	3	2,608	64,187	11,828	200	383	13	111

\* First use of Pure Drug figure as authorized on UNNC Annual Statistical forms for 1953.

## **HEALTH SERVICES**

### **CONSULTANT SERVICES**

#### **BLINDNESS CONTROL DIVISION**

The Division carried on its educational program for the preservation of vision by pamphlets, articles, radio scripts and motion pictures. Interest was continued in remedial treatment of suitable recipients of blindness allowance, in eye research, in glaucoma clinics and to a limited extent in the problems of the deaf. In connection with the Blind Persons Act, eye examinations were supervised, eye reports filed and blindness certificates issued to provincial authorities.

#### **Eye Research**

The Division fostered eye research through the National Health Grants program. Projects concerning eye diseases of virus etiology, glaucoma, keratitis and panophthalmitis continued at the University of Toronto. Also under the Grants Program, glaucoma research is under way in Montreal and Quebec City.

#### **Treatment Scheme**

The treatment scheme, initiated by the Division in 1949 and designed to restore sight to suitable blind pensioners, was put on a permanent basis in February, 1952. Agreement has been reached with nine provinces to participate. The treatment is given locally and the Federal Government re-imburses the provinces for 75% of the cost of approved treatment.

Up to March 31, 1954, vision was restored in 104 out of 149 cases treated. In the year ending March 31, 1955, 53 more cases were treated with 44 successes. The total is 202 cases treated with 148 successes (73%)—mostly by cataract extraction.

Only a small proportion of recipients of blindness allowance whose sight might be restored actually apply for treatment.

The cost of treating the 53 cases in the last fiscal year was \$22,110.38, of which \$16,582.89 was reimbursed to the provinces concerned. The cost of each case approximates the blindness allowance of one person for one year. Thus, considerable savings are achieved. More important is the resultant restoration of vision to the persons concerned.

#### **Glaucoma**

This condition causes more blindness than any other eye disease. It can occur at any age, but is more common after 40. Its prevalence is increasing partly because more persons are living longer.

Four glaucoma clinics have been established for needy persons under the National Health Grants program. One is in Toronto, two are in Montreal and one in Quebec City. A fifth clinic has been approved for Saint John, N.B., and is expected to be operating early in the next fiscal year.

#### **Legislation**

An amendment to the Blind Persons Act to lower the age limit of eligibility from 21 to 18 years is now before Parliament. If this bill is adopted, the change will affect several hundred young blind persons.



Of the 20,506 known blind in Canada, 8,122 are in receipt of blindness allowance under the Blind Persons Act. Some 3,000 persons formerly on blindness allowance have been transferred to Old Age Security pension on reaching age 70.

## Hearing

The Division, in co-operation with the Information Services Division, issued an educational pamphlet entitled "Ear Trouble" dealing with the causes, treatment and prevention of deafness in children.

## CHILD AND MATERNAL HEALTH DIVISION

For most of the period under review the activities of the Division were carried on by Dr. Jean F. Webb whose appointment as Chief of the Division was confirmed early in the year. In March, 1955, Miss Esther J. Robertson joined the staff as nursing consultant. This appointment will result in a renewal of nursing consultant services to hospitals and their extension into the field of public health nursing. A close liaison will be maintained with national and provincial nursing organizations as well as graduate schools of nursing.

The Division continues to have as its objective the promotion of optimum health for the mothers and children of Canada. It functions in an advisory way in several areas to fulfil this objective.

1. Assistance is given on request to the Health Grants Administration in the review and assessment of health grant projects for services to mothers and children.
2. Assistance and advice are made available to provincial health departments in the assessment of present facilities and services and in planning for extension of services in this field.
3. Educational materials to be used by both the general public and by professional individuals and groups are prepared.
4. Research is conducted and stimulated on health problems peculiar to mothers and children.

## Health Grants

Improvements and extensions of maternal and child health services have been stimulated by the funds of the Child and Maternal Health Grant. The Division has continued to be consulted frequently by the Health Grants Administration regarding the utilization of these funds. In the year under review one province established a division of maternal and child health, with a physician and a nursing consultant. A pediatrician was employed, part-time, by another province to study the problem and make recommendations to the department of health. A third province employed a consultant in nursing to develop further this field of public health services. Other expenditures were for equipment especially for newborn care, training of personnel, and a number of service projects.

During the year another well-organized study of still-births and neonatal deaths was set up along lines similar to the one already in operation. Other research projects in the field of maternal and child care were carried on. The Division was also consulted regarding projects for the utilization of the Crippled Children's Grant, the General Public Health Grant, Professional Training Grant, and the Public Health Research Grant.

## Consultation to Provinces

All provinces but one were visited by the Chief of the Division during the year. Discussions took place with provincial health authorities as well as with physicians and

hospital personnel interested in these problems. Particular emphasis was placed on the terms of reference of the Child and Maternal Health Grant and the opportunities for its utilization. The nursing consultant visited three university schools of nursing to establish contact and discuss future co-operation.

### **Educational Materials**

Preparation of educational materials, in co-operation with Information Services, continued to be a major interest of the Division. The "Nursing Manual on Premature Care" was released for distribution, and its reception was so favourable that a reprint was required during the fiscal year.

A pamphlet on "Rheumatic Fever in Children" was prepared and will be available soon.

A filmstrip, "How to Protect Baby from Infection", has been completed, and will be ready soon.

Two posters for use in child health conferences and prenatal clinics have been produced.

There has been a continuing heavy demand for the revised edition of "The Canadian Mother and Child" and for other materials.

### **Research**

A paper on another phase of the study of staphylococcal infections of mothers and newborns has been accepted for publication by the Journal of the Canadian Medical Association. Other publications will be forthcoming.

### **Other Activities**

The Chief of the Division assumed responsibility for directing a panel discussion on "Maternal and Newborn Care" at the May meeting of the Dominion Council of Health. Participants were representatives of university departments of obstetrics and paediatrics and of the Canadian Nurses' Association.

Contact has been maintained with the national and provincial medical associations. A paper, "Infections of the Newborn", was given at the annual meeting of the Ontario Medical Association. Material on "The National Health Program for Mothers and Children" was presented at a panel discussion of the annual meeting of the Canadian Paediatric Society.

There was an opportunity during the fiscal year to spend several weeks in the United States visiting the health departments of Connecticut, Maryland and New York City, as well as the Children's Bureau in Washington. Particular attention was given to programs for the care of newborn infants and handicapped children. It was of interest to note the increasing involvement of departments of health in both the development of recommended standards for maternity and newborn care and their implementation.

### **Indices of Progress**

Reductions in maternal and infant mortality rates are widely recognized as valuable reflections of general progress in maternal and child care. The salvage of maternal and infant lives is the first objective in all maternal and child health programs but should not be regarded as the sole objective.

**Maternal Mortality**—In 1953 there were 324 deaths of mothers in Canada. This represents a rate of 0.8 per 1,000 live births—the lowest national rate ever achieved. Ten

years ago, in 1943, there were 831 deaths in nine provinces—a rate of 2.8 per 1,000 live births.

In 1953 the major causes of maternal deaths were:—

	<i>Number</i>	<i>Percent</i>
Toxaemia .....	95	29
Haemorrhage .....	90	28
Sepsis .....	67	21
Disproportion .....	27	8
Other causes .....	45	14
Total .....	324	100

With the decreasing maternal mortality rate, our concern becomes less with mortality than with maternal morbidity. Although there are no accurate statistics on this problem, the association between maternal morbidity and complications in the newborn infant is well recognized. Continued improvement in services to mothers will be reflected in a reduction in stillbirths and neonatal deaths. There are two necessary steps in the improvement of these services. One is to improve facilities for maternity care, especially in rural areas, and the other is to ensure that the mothers requiring care avail themselves of it. This requires the combined efforts of physicians, hospitals and public health workers.

**Infant Mortality**—In 1953 there were 416,827 live births in Canada—the birthrate being 28.2 per 1,000 population. There were 14,764 infants who died in their first year—a rate of 35 per 1,000 live births. The rate ten years ago was 55. There has obviously been considerable improvement which has been world-wide. Canada, however, has cause for concern since many other countries with no higher standard of living save more infant lives. In 1953, 12 countries had rates under 35, and eight of these were under 30.

The major causes of death in the first year of life were:—

	<i>Number</i>	<i>% of Total Infant Deaths</i>
Lower respiratory infections .....	2,550	17
Immaturity .....	2,243	15
Congenital malformations .....	2,161	15
Birth injury .....	1,420	10
Asphyxia and atelectasis .....	1,316	9
Gastro-intestinal infections .....	985	6
Ill-defined diseases .....	1,160	8
Other causes .....	2,929	20
Total .....	14,764	100

Respiratory infections remain the leading cause of death in infancy, while other infections contribute materially to the total. As the infant mortality rate decreases, deaths in the first month of life account for an increasingly larger proportion. In 1953, 8,895 infants died in the first month of life. The nature of the neonatal mortality problem is further emphasized by the fact that 75% of newborn deaths occur in the first week of life. Since more than 80% of births now take place in hospitals, the responsibility for a reduction in neonatal deaths must be shared by the hospitals and the physicians providing care as well as by departments of health.

## DENTAL HEALTH

The prevalence of dental caries, periodontal disease and malocclusion in Canada can as yet be estimated only in general terms. The development and use of standardized epidemiologic methods for a better assessment of these conditions is progressing, with the help of the universities and the Canadian Dental Association. In the meantime, con-

servative estimates of the magnitude of the problem of caring for oral ill health, available from the Canadian Sickness Survey and from a recent survey made by the Canadian Dental Association, show that its economic implications in health program planning are highly important. The amount of money paid directly by the public to physicians for medical treatment (exclusive of expenditures for prepayment plans) is only about 2½ times the amount paid directly to dentists for dental treatment. The Canadian Dental Association estimates that the overall annual cost of dental care in Canada is well in excess of \$70,000,000 and that less than one-quarter of the total need for dental care is being met by the 5,000 practising dentists. These findings are supported by the work of this Division in the fields of oral epidemiology and dental economics. Although the total picture remains to be clarified in its details, enough information has now been revealed to lead this Division to direct its efforts almost entirely to the encouragement of prevention and to early systematic dental care of children as the only sound approach to good oral health in the future.

### Health Grants

The General Public Health Grant is the main source of health grant aid for dental programs in the provinces. Provincial departments of health are advised to utilize this grant to set up dental health divisions, where they do not already exist, and to place them under the direction of public health trained dentists. Eight of the provinces now have such divisions, headed by dentists who have obtained their professional training in public health with the aid of the Professional Training Grant. The existence of these provincial dental divisions is an important factor in directing the use of monies from the General Public Health Grant to dental health education in the schools and in local health units, and to early systematic treatment of the pre-school and lower-grade elementary school children. In this connection, the gradually increasing use of the Professional Training Grant to train dental hygienists is bringing into the public health field a valuable dental ancillary whose work is directed to the use of preventive measures among children.

Although the emphasis in the development of dental programs has been on the care of young children, the grants have also been used to improve dental facilities in sanatoria and mental hospitals.

### Research and Surveys

This Division, with the help of the Research Division, has now proven, beyond any reason for doubt, that the adjustment of the fluoride content of a low-fluoride, or fluoride-free, water supply to a level of one part per million of fluoride will reduce the incidence of tooth decay by about 65%. The analysis of the findings from the 1954 survey showed that the children of Brantford, who were born subsequent to the beginning of fluoridation there, had the same reduced caries attack rate as the children of Stratford where the water supply has contained fluoride in excess of one part per million for the past 38 years. No ill effects were observed in either of these places, either by the survey team from this Division or by the local practising dentists and physicians.

It is worth noting that the statistical design and the general planning of this study of water fluoridation, involving the cities of Brantford, Sarnia and Stratford and more than 5,000 children, has drawn favorable comments from universities and health authorities in various parts of the world. To meet the requests for information about the methods used the two divisions concerned have published a monograph entitled "A Suggested Methodology For Fluoridation Surveys In Canada".

In addition to the water fluoridation study, the Division, again with the help of the Research Division and also with help from the Food and Drug Directorate, is conducting two other studies in the field of prevention. One of them involves the use of the topical application of stannous fluoride to prevent tooth decay; the other is aimed at simplifying topical application methods.



During the year the Division assisted the Nutrition Division in a survey at Cape Sable Island, N.S., obtaining information on the health of the teeth and gums of both adults and children there.

### Education and Information Services

More than 50% of tooth decay can be prevented by brushing the teeth or rinsing the mouth immediately after eating. A further important reduction can be obtained by the intelligent, moderate use of sweet foods. There is a close demonstrable relationship between oral cleanliness and disease of the gums. This, and a few additional simple items of information, if carried into use by the public, would reduce the need for professional dental care to a small fraction of what is now required. Therefore, this Division is actively concerned with disseminating such information among the public, and more particularly to the children, in simple, attractive, understandable forms—and to indicating where the major responsibility lies in the preservation of oral health. In this work the staff of the Information Services Division has rendered helpful service. An encouragingly large demand continues for dental health folders, posters, films, filmstrips and teaching aids.

### Other Activities

Some of the interests and activities of the Dental Health Division require the assistance of other divisions, and vice versa. This applies more particularly to Indian Health Services, the National Health Grants Administration, the Food and Drug Directorate, the Nutrition, Child and Maternal Health, Mental Health and Occupational Health divisions. Useful exchanges of help and advice have furthered the interests of the divisions concerned and of the Department as a whole.

Close liaison is maintained with the Canadian Dental Association on all public health matters of mutual concern and interest. The head of the Division attends in an advisory capacity at meetings of the Public Health Committee and Health Insurance Studies Committee of this professional organization.

## HOSPITAL DESIGN

Since the inception of the Hospital Construction Grant in 1948 more than \$69,400,-000 has been allocated toward the construction of space for more than 54,700 patient beds of all types, and more than 6,500 bassinets and 8,500 nurses' beds have also been approved for grants. In addition to those given on a bed basis, grants have also been approved for community health centre facilities, which include such areas in hospitals as out-patient departments, radiology, laboratories, emergency, pharmacy, dispensary, physiotherapy and remedial therapy. Grants are also provided for training facilities. Grants for these services are determined on a floor area basis, which entails a detailed study of the number of square feet in each area.

The problem of approval becomes more complicated yearly as hospitals often return three or four times for additional grants, and it is necessary to review the complete developments to ensure that a duplication of assistance does not occur.

Prior to a request for grant assistance, many provincial health authorities, and others, forward proposals in the preliminary stage for consultation on planning problems. This Division was originally set up to provide this service, but the time consumed by the grant program prohibits full advantage of this service being available to hospitals. However, during the year, the Division has provided consultation to many hospitals, large and small, of various types throughout Canada, and also to the Armed Forces medical services, Northern Affairs and Indian Health Services. Continued research and study of hospital planning is essential to maintain a high standard of service.



A detailed study for alterations and additions to the Bermuda Mental Hospital was made at the request of the Bermuda Health Department. Preliminary studies have been made for the Laboratory of Hygiene of this Department and for a proposed hospital at Whitehorse for Indian Health Services.

During the past two years a member of this Division completed studies in hospital organization and management and obtained a Certificate of Hospital Administration from the Canadian Hospital Association.

The Chief of the Division is chairman of a committee set up by the Canadian Standards Association on hazards in hospital areas where explosive gases are used. During the past year he gave papers at the Alberta Hospital Association and lectures to the School of Hospital Administrators in Toronto and London, Ont.

## MENTAL HEALTH DIVISION

The Mental Health Division promotes mental health programs and provides educational materials of all types for the provinces. It co-operates with the provinces in their efforts to benefit mental hospital patients and to develop community mental health services. The Division is particularly concerned with the preventive aspects of mental health through public education in the importance of early treatment and in the proper direction to child training. Since many of the provinces are not equipped to undertake the specialized job of public education through the production of booklets, films, etc., this Division has undertaken this task and co-operates with the provinces in developing a balanced mental health program for this country.

### Mental Health Grant

The Mental Health Grant continues as a major factor in the progress of mental health services in Canada. Through this grant a steady stream of key mental health personnel is being made available throughout the country, as facilities are being increased and expanded to deal with mental illness in its early stages. Progress in research is being pushed through annual federal grants amounting to approximately \$500,000 annually. Community mental health services are being strengthened and expanded, with emphasis being placed upon mental health and child guidance clinics as well as psychiatric out-patient departments and wards in general hospitals as "first line defences" against one of Canada's greatest public health problems. As in the past, voluntary mental health organizations are also receiving support under the mental health grant.

During the year under review 289 projects were supported by the mental health grant. A total of \$6,635,947 was allocated as follows:—mental health divisions \$181,177; mental hospitals \$3,673,778; psychiatric services in general hospitals \$803,476; mental health clinics \$739,545; training programs \$203,944; bursaries \$467,050; and research \$566,974.

### Consultant Services

For Immigration Medical Services the Division reviews cases where a psychiatric condition is present or suspected in connection with an immigrant's application for admission to Canada and with a sick mariner's hospitalization. The Division collaborates with Information Services Division in the production of mental health education materials; with Civil Defence as a consultant to the Civil Defence Health Planning Committee; with Narcotic Control Division in cases in which it is suspected that narcotics have been abused for an alleged medical condition; with Hospital Design Division concerning the details of design of mental hospitals, schools for mental defectives and psychiatric units in general hospitals; with the Dominion Bureau of Statistics on the national system of reporting mental health statistics.

## Public Education

The Division continues to publish the monthly newsletter "Canada's Mental Health" which is a medium to disseminate professional and technical information to provincial mental health divisions, mental institutions of all types, university faculties of psychiatry, psychology and social work, and key persons working in the voluntary mental health field. Three new folders were added to the child training series bringing the total number of these publications to 20. The latest three are "Jealousy", "Sleeping Habits" and "Parent Education".

Special surveys conducted by Divisional personnel resulted in the publication of four brochures: "Mental Health Services for Courts, Penal and Reform Institutions in Canada"; "School Mental Health Services in Canada"; "Community Mental Health Services in Canada"; "Services for the Care and Training of Mentally Defective Persons in Canada." The 207-page book "Mental Health Services in Canada" produced by the Department's Research Division was done in co-operation with the Mental Health Division. During the fiscal year 1954-55, a total of 1,012,310 pieces of literature were distributed. Of this number, 832,685 were in English and 179,625 in French.

A film interpreting Canadian mental health services to the general public was completed during the year. It is titled "To Serve the Mind" and describes in dramatic form services available for the treatment of mental illness. Two filmstrips were produced dealing with the subjects of "Fear" and "Destructiveness." Four posters on mental health subjects for general use have been printed.

## Fifth International Congress on Mental Health

The Fifth International Congress on Mental Health met in August in Toronto and was attended by more than 2,000 delegates representing over 30 countries. The Department gave financial support to this historic gathering, and the Mental Health Division had an outstanding display to show the progress that Canada has made in the field of mental health, particularly under the impetus of the National Health Program. The Hon. Paul Martin addressed the opening session of the Congress, and the chief of the Division and staff took an active part in the conferences and workshops.

## Drug Addiction

The problems of addiction to narcotics and the control of narcotic supplies continue to be of considerable concern to the Department. Since mental health is one aspect of the problem, this Division maintains close co-operation with the Division of Narcotic Control. The Chief of the Mental Health Division gave testimony before the Special Committee on the Traffic in Narcotic Drugs in Canada.

## Advisory Committee on Mental Health

The Advisory Committee on Mental Health met in Ottawa February 28 and heard reports of the subcommittees on research, statistics, training, and public education.

**Research**—The subcommittee on research met once during the year. Close liaison is maintained with the National Research Council, the Defence Research Board and privately-endowed foundations and universities so that a balanced program of research in this field may be maintained. Some 42 projects costing approximately \$459,000 were recommended by this subcommittee.

**Statistics**—The Division works in close co-operation with the institutions' section of the Dominion Bureau of Statistics. Major changes have been made in the 1953 report of Mental Health Statistics and further changes are under study. Finances are now being omitted from the main body of the report, various cross classifications have been eliminated and generally the report is being kept as non-technical as possible. The first edition

of the new Mental Statistics Handbook has been well received, and a second edition of 2,000 copies has been prepared. Canadian statistics on mental illness continue to be the most up-to-date, extensive and reliable among those produced in the world today. National statistics on mental illness are available within the year of collection, and hence are of current value to those working in this field.

**Public Education**—This subcommittee is concerned with educating the public so that they will better understand and participate in mental health activities. The subcommittee has been actively concerned with a variety of problems during the past year and met three times, twice in Toronto and once in Montreal. The following problems have been given special consideration—(1) Public Attitudes to Mental Illness and Mental Health; (2) Changes in Practice Study; (3) Content of Material Used for Purposes of Public Education; (4) A Mental Health Manual; (5) Effectiveness of Media of Communication.

**Training**—The lack of sufficient numbers of trained personnel—psychiatrists, psychologists, psychiatric nurses, psychiatric social workers, occupational therapists—continues to be one of the basic problems to be solved in the implementation of any national mental health program. The aims of this Subcommittee are: (1) To improve the standards of nursing care in Canada's mental hospitals; (2) to set minimum standards of training for nursing personnel in mental hospitals throughout Canada; (3) to further congenial working relationships between nursing personnel and Canadian mental hospitals and other branches of nursing. The Advisory Committee on Mental Health has recommended that a survey of needs in terms of personnel vacancies be made by this Department. This is in respect to needs for psychologists, psychiatrists, social workers and other disciplines.

## NUTRITION DIVISION

The Division continued to work toward the maintenance and improvement of health in Canada by providing technical services to federal and provincial agencies. A second nutrition survey was carried out in a Nova Scotia community to determine changes in food habits and health since the first survey in 1949, during which time an intensive program of nutrition education had been carried out. Consultant dietitians visited Indian hospitals, nursing stations and residential schools to give advice for the improvement of food service. In co-operation with the Civil Service Health Division, a survey and educational program to promote better breakfast habits among civil servants in Ottawa is being carried out. First results of the Canadian Weight-Height Survey were printed. The Director has continued to provide technical nutritional advice to numerous government departments, to individuals and at meetings.

### Research and Surveys

The Nova Scotia survey on Cape Sable Island was carried out in co-operation with the provincial health department. Following the earlier survey in 1949, provincial nutritionists instituted an educational program based on the survey findings. The 1954 survey revealed appreciable improvement in the health of the group studied.

Investigation was continued of the possible harmful effects of bone meal in flour on hemoglobin formation. This study, which began in 1949, will be concluded in 1955.

Publication of a physician's card of "Canadian Average Weights for Height, Age and Sex" marked the culmination of a national height-weight survey and provided Canada with what is believed to be the first such table to be representative of a country. The final report is now being prepared.

Preliminary work is underway for two nutrition surveys to be carried out in New Brunswick. One study will be in an area with considerable blindness.

Follow-up work was continued among members of the large family group which has been studied for several years in regard to the relationship between nutrition and



Leber's optic atrophy. Four other family groups with histories of hereditary optic atrophy were investigated, and family trees to the fifth and sixth generations were drawn. Study of the pattern of transmission of the disease is being continued.

### Consultant Services

**Other Divisions:** Civil Defence (Welfare Planning) received help with two courses for instructors of emergency feeding at the Canadian Civil Defence College, Arnprior, and with the serving of meals for large groups on other occasions. Assistance in preparation of educational filmstrips was provided and the "Technical Manual on Emergency Feeding", previously prepared in this division, became available this year. A dietitian from the Division was consulted regarding equipment and staff for the mess at Arnprior.

At the request of Indian Health Services, 16 hospitals and 10 nursing stations received direct assistance with their food service. Advice was given on menus for immigration halls.

In co-operation with the Civil Service Health Division, a Better Breakfast project was started among Ottawa civil servants. A survey of breakfast habits, being carried out building by building by the nursing counsellors, reveals that many workers do not eat a breakfast satisfactory for health. Efforts are being made to improve the situation by education. The project is still in progress.

During the year nursing counsellors referred 15 civil servants to the Nutrition Division for examination and advice on nutrition problems.

The Research Division, in the preparation of a statement for the International Labor Organization concerning the health requirements of industrial workers, received help on questions dealing with feeding.

**Other Departments:** Assistance was given the Department of Transport in setting up rations for seamen and for personnel in isolated stations. For the Indian Affairs Branch of the Department of Citizenship and Immigration, advice was given on the food service in two Indian residential schools. The Division also gave advice on plans and equipment for the cafeteria in a new government building.

**Provinces:** During the year one province was assisted in setting up space and equipment standards for school lunchrooms. Requests for advice on kitchen layouts are often received by referral from provincial health departments. During 1954-55 advice was given on the following layouts—two general hospitals, a School for the Deaf, a hospital for mental defectives, a home for chronic illness and an agricultural residential school. Provincial nutritionists were given assistance with a variety of specific problems.

**Other Agencies:** In July, 1955, more than 10,000 boys will be under canvas at the International Boy Scout Jamboree which is being held in Canada for the first time. The Canadian Boy Scouts Association received advice on food supplies and feeding practices for this Jamboree.

Nutrition information to be included in publications by several commercial agencies was checked for accuracy. Numerous requests for information were received from professional and lay people.

### Education and Information

Educational materials were produced in co-operation with Information Services for use by provincial health personnel in accordance with their expressed needs. Of more than 900,000 items distributed through these channels, the majority were reprints or revisions of items of proven educational value. New publications included a poster on a "Good Breakfast"; a booklet "What is Nutrition?" for use with the filmstrip of the same name; the French edition of "A Dietary Standard for Canada" (Canadian Bulletin



on Nutrition, Vol. 3, No. 2); and a pocket card, "Canadian Average Weights for Height, Age and Sex." The basic nutrition booklet, "Healthful Eating", was rewritten.

"Canadian Nutrition Notes" was published monthly for professional people, and regular publication of other periodicals was continued.

For the third successive year a nutrition photograph contest was sponsored. The 63 entries, more than in the previous year, showed greater variety of subject and improved presentation of theme, thus indicating that these contests were achieving their objective by increasing interest in nutrition.

### **Laboratory Service**

In addition to carrying out routine micro-analyses on blood and urine samples in connection with nutrition surveys, the facilities of the Nutrition Laboratory are available to physicians, through provincial laboratories, for the estimation of vitamin A, carotene, ascorbic acid and protein in properly collected and shipped blood samples. Simplified procedures for collection and shipment have been devised and, as a result, it has been possible to give this service wider publicity. Interest arising out of this publicity indicates an expansion of laboratory activity during the coming year.

### **Advisory Committee**

The Dominion-Provincial Nutrition Committee this year met with its parent body, the Canadian Council on Nutrition. Nutritionists working with other agencies were invited to attend some of the sessions.

## **ENVIRONMENTAL HEALTH & SPECIAL PROJECTS**

### **MEDICAL REHABILITATION AND DISABILITY ADVISORY SERVICE**

The Medical Rehabilitation and Disability Advisory Service was established this year under the supervision of the Principal Medical Officer for Environmental Health and Special Projects. This Service, which consists of a medical consultant, a medical social work consultant and a technical consultant, is intended to provide advisory and consultative rehabilitation services and in the medical areas of the disability allowances programs.

In rehabilitation the Service is a consultant to other branches of the department, particularly the National Health Grants administration. All projects submitted under the Medical Rehabilitation Grant are reviewed, and recommendations are made in each case. The Service also provides liaison with other departments of the government which carry non-medical responsibilities in rehabilitation. Close contact is maintained with the National Advisory Committee on the Rehabilitation of Disabled Persons on which the Principal Medical Officer acts as departmental representative. The Service also provides technical advice and guidance to other governments and to voluntary agencies.

In the field of disability, the Service provides guidance to medical evaluation boards established to advise provincial authorities administering disability allowances programs. In this connection, the Service published the "Disability Evaluation Manual" in which procedures are described, legal definitions are interpreted, types of acceptable medical evidence are explained and guide forms drawn up. This manual is being used extensively in provincial programs.

Through the appointment in the provinces of Medical Review Boards, working in collaboration with federal medical representatives under the general supervision of the Service, it is hoped to achieve a standard interpretation of disability in all provinces.

In setting up one joint advisory service for both medical rehabilitation and disability evaluation, the principle of maintaining the closest tie-in between the two programs has been emphasized.

## OCCUPATIONAL HEALTH DIVISION

The promotion of sound health practices in all industries and occupations throughout Canada is the overall objective of the Occupational Health Division. Towards this end, the Division consists of three groups; laboratory services; clinical—both medical and nursing—consultant services; and radiation services.

The Division acts as an advisor and consultant on all matters of occupational health, providing assistance and advice, on request, to other federal departments, provincial health departments, certain crown companies, commercial and industrial enterprises, and others. Many of the problems and surveys involve all services of the Division.

### Clinical and Health Education Services

On request, medical and nursing consultant assistance was provided for a wide variety of occupational health problems during the year.

**Medical**—The following are a few examples of the studies and surveys which medical officers of the Division assisted either as supervisors or participants: an investigation of mercury hazards in seed-testing laboratories; a study of the problem of noise at an R.C.A.F. station; and an investigation of the river pollution problem at Edmonton, Alberta.

The Chief of the Division continued to act on the Windsor-Detroit Air Pollution Study, and one of the clinical consultants, as a member of the National Health Pesticide Committee, devoted considerable attention to the study of pesticide health hazards, a constant and growing concern.

Two new studies were initiated during the year, one of which concerns the provision of health services for small plants and the other an investigation of the problem of back injuries in heavy industry.

An increasing number of inquiries on occupational health problems were dealt with, and clinical advice was given to provincial health departments, industries, local health agencies and many other groups. Examples of such assistance to provincial departments include the provision of information on such diverse matters as dust control in the manufacture of asbestos textiles and the composition of duplicating fluids.

Assistance to various federal departments included advice on the carrying of dry ice in aircraft, recommendations on the use of cyanides in plating processes and information on the coproporphyrin method in the diagnosis of lead poisoning. In co-operation with members of the laboratory staff, members of the clinical services assisted with the preparation and presentation of a lecture course in occupational hygiene to members of the R.C.A.F. and the Canadian Army.

In addition to their other functions, the medical officers also served on various national and international committees.

**Nursing**—The services of the nursing consultant are planned to function as a part of the total health program of the Department and throughout the year, the consultant continued to provide leadership and assistance in occupational health matters pertaining to nursing.

As a part of her work, the consultant made a trip to Nova Scotia and New Brunswick where she visited all industries employing nursing staffs. She also participated in various institutes, a valuable innovation in occupational health nursing.

Assistance was given to universities and hospital nursing schools in regard to their instruction in occupational health nursing, with a view to increasing the preparation of the professional nurse for employment in occupational health nursing in Canada's industries.

Many requests for information concerning occupational health nursing and other health matters were received from industries and other organizations in the various provinces. In Ontario and Quebec these were dealt with in co-operation with provincial nursing consultants; in the other provinces, where there are as yet no nursing consultants, direct assistance was rendered. As a matter of interest, there has been a general increase in the number of requests for information on the organization of health centres and occupational health nursing programs.

In keeping with the policy of interpreting the role of occupational health nursing to other professional groups, the senior nursing consultant continued active membership on committees of the Canadian Nurses' Association, the American Association of Industrial Nurses, the Professional Institute and on the advisory editorial staff of the publication, "Nursing World."

**Educational and Technical Information**—Health education is of primary concern to the Occupational Health Division and, in addition to the educational media of press, radio, correspondence, short courses, and the presentation of lectures and papers, the Division, in co-operation with Information Services, contained publication of the following periodicals.

*Occupational Health Bulletin*—a monthly publication, in both French and English, containing information on health and safety of workers, distributed free to about 22,000 industrial managers, industrial nurses, safety supervisors and other interested groups and individuals.

*Occupational Health Review*—a semi-annual technical publication, circulated in English and French editions to about 12,000 medical, nursing and technical personnel.

*Pesticide Bulletin*—a technical publication, dealing with the health hazards of pesticides and current developments in the pesticide field. Distribution is confined chiefly to medical research and technical personnel involved in health aspects of pesticides.

*Occupational Health News Letter*—a new publication, intended to disseminate information on federal and provincial developments in occupational health.

*Reference Manual: Guide to Diagnosis of Occupational Diseases*—During the year, there continued to be many requests for this reference manual, both in Canada and from abroad.

## Laboratory Services

Certain problems in occupational health require scientific research, investigation and consulting service, in the laboratory or in factory, mine or field. The closest co-operation with the clinical services of the Division exists in the approach to such problems and a number of major cases have been jointly studied on behalf of federal agencies and provincial departments of health during the fiscal year 1954-55.

In the laboratory, research has been pursued on certain new insecticides to develop clinical tests and treatment procedures useful to the medical profession in dealing with cases of ill-effects from such chemicals. The growing problem of urban air pollution has been emphasized by research on both the toxicological and physico-chemical aspects. This area of investigation has been assigned to the Occupational Health Group since a substantial proportion of air pollution is of industrial origin and similar to contamination dealt with by occupational health experts in studying conditions inside the workplace.



Demand for consulting service by laboratory personnel has reflected the increasingly technical character of the factors influencing the health of Canadian working people. Staff have served on new safety standard committees. Consulting work to the Department of Agriculture in hazard assessment of new pesticidal chemicals has accelerated as the use of such chemicals in Canada has grown. Laboratory specialists have been called upon to serve in the international field on special committees under the World Health Organization and the International Labour Office.

During the year the work of the Laboratory led to a number of publications in scientific and medical journals.

**Study of New Pesticidal Chemicals**—Substantial progress in study of the effect of such chemicals on the enzyme systems of laboratory animals was made with indication of the possibility of a useful test being developed for clinical assessment of absorption of such chemicals by humans. The discovery in the laboratory of an antagonistic action between two classes of insecticides may open the way to progress in the development of prophylactic and treatment procedures for ill-effects from certain new insecticides. Study of the fundamental nature of specific enzymes has been carried out as a part of the basic approach to this problem. Two publications appeared in the literature from this work. Three publications were prepared on field studies carried out in the previous year.

**Arsenic Pollution at Yellowknife**—A continuing survey of the levels of arsenic in the Yellowknife environment has been carried on for the fourth year following the discovery that effluents from smelting operations had contaminated the area. This survey revealed a loss in efficiency of one collection system during the year and an indication of a small increase in environmental levels in certain sections.

**Hazards of Welding Operations**—A special study of environmental and clinical aspects of the hazard of welding operations was carried out on behalf of the Department of National Defence. The special problems of welding in confined spaces, which typify ship repair and construction, were investigated and recommendations made for control of the hazard in this important occupation.

**Dust Conditions in Industry**—A new and advanced electron microscope was put into service on the problem of improving methods for assessing dust conditions in industry. The scientist in charge of this instrument worked at the French National Research Council in Paris during the early months of the year developing special techniques for identifying very small air-borne dust particles. By the close of the year progress had been made on a technique for identifying, sizing and counting quartz particles which present the major hazard of industrial dust and represent the aetiological agent in silicosis.

Free service to industry and official agencies in analysis of special dusts has been continued.

**Air Pollution Research in the Laboratory**—Urban air pollution presents a problem of ever-increasing importance in large Canadian cities and industrial centres, and the occurrence of several disasters in which many lives were lost has stressed the growing menace of pollution. Attempts at intelligent control of this problem are hampered by a lack of understanding of the mechanism whereby polluted air exerts its deleterious and sometimes fatal action. Study of the toxicity of air pollutants is being prepared for by construction of an exposure chamber of advanced and unique design in which experimental animals can be used as test subjects. In this chamber synthetic atmospheres of controlled composition can be created. Investigation of the possibility that relatively enormous amounts of toxic gases may be dissolved in droplets or adsorbed on particulates has continued into the second year with further basic data on solubility coefficients and adsorption isotherms obtained.



Investigation of the relationship between naturally-occurring calcite in the air and the formation of gypsum with sulphur gases of combustion origin has established this aspect as common in a series of urban atmospheres examined. This problem will be continued as it represents a further approach to the central problem of air pollution, i.e., the unaccountably high toxicity of polluted atmospheres.

**Consulting Service by Laboratory Staff**—Laboratory staff have served on a number of Canadian Standards Association committees in connection with development of safety standards related to occupational problems.

A report summarizing the situation as to dust prevention and suppression in mining, tunnelling and quarrying in Canada was prepared for the International Labour Office.

Extensive consulting service on day-to-day occupational health problems encountered by federal agencies and Crown companies has been rendered. In particular the Department of National Defence has been assisted in view of the ever-increasing use of highly technical procedures in defence operations.

The Laboratory has continued to serve on the Expert Committee on Insecticides of the World Health Organization and during the year co-operated (with two leading authorities from the United Kingdom and the United States) in a special publication on protective measures against organic phosphate insecticides.

A working paper on safety features of equipment used in applying insecticides was undertaken at the request of the World Health Organization for the 1955 meeting of the Expert Committee on Insecticides. Advice was also given on the agenda of a special meeting to be held in 1956 on toxicological evaluation of insecticides.

A member of the Laboratory staff acted as Canadian Government delegate to the fourth session of the Chemical Industries Committee, International Labour Office, in Geneva, during February.

**National Health Pesticide Committee**—The intimate understanding of the action of the new insecticides gained through the Laboratory work on these chemicals has permitted the Division to act as consultants to the Department of Agriculture in connection with the administration of the health section of the Pest Control Products Act under which pesticides are registered in Canada.

Each year new chemicals of widely diversified nature are presented for registration under the Act. To ensure that such chemicals will not constitute a serious hazard to the health of the user, the consumer of treated produce and the personnel who manufacture, formulate and package the chemicals, careful assessment of the potential hazard is made by the National Health Pesticide Committee. Included in the Committee are experts in the toxicological, environmental and clinical fields. A representative of the Food and Drug Directorate is also a member. The Committee is the liaison agency between the two Departments. Each chemical is reviewed in relation to these specialized aspects and in relation to the entomological purposes of the chemical and the application procedures.

During the fiscal year the Committee reviewed 63 cases. Of these 29 were cleared and label precautions finalized. In four cases registration was recommended against. Fifteen cases required that additional health data be obtained from the manufacturer, and 15 cases remained under review at the close of the fiscal year.

The Committee handled 66 consultations from other agencies, including the Canada Department of Agriculture, provincial departments of health and agriculture and the trade during the year. Included in this service was detailed design of a toxicological testing technique for a Canadian manufacturer entering the market with a new product.

Sub-committees studied the special problems of standard label precautions, standard toxicological rating for pesticides and tolerances for pesticides on food.

The Committee held 11 sessions and 20 meetings with the trade and others on special matters.

### **Radiation Services**

The Radiation Section continued its function as advisors to the Atomic Energy Control Board on the health supervision of the use of radioisotopes. In addition, consultant services were maintained on the health aspects of other forms of ionizing radiation, as follows:

**Film Monitoring Service:** This has expanded to include the new film badge for X-ray workers. Over 1700 radiation workers are now making use of this service.

**Surveys:** A survey of a Crown-operated uranium mine was conducted in conjunction with the Occupational Health Laboratory, Atomic Energy of Canada, Limited, and the Ontario Mines Accident Prevention Association. Stray radiation surveys were made at several establishments using X-ray diffraction units, and recommendations were made concerning the use of these units. Plans were made for the initiation of a study of the effects of an increase in radiation background. In this regard a physicist of the Section is undergoing special training in methods of measuring the content of radioactivity in the human body.

**Training:** The second basic radiological training course was given to members of the Public Health Engineering Division and a member of a provincial health department. This course consisted of lectures and practical exercises emphasizing safe methods of using ionizing radiation.

### **PUBLIC HEALTH ENGINEERING**

The activities of the Public Health Engineering Division during the past fiscal year showed increased emphasis on matters of pollution control, the development of a shellfish program for the Province of Quebec, and the investigation of and participation in special projects at the request of various federal and provincial departments of health. The continued growth and industrial expansion so characteristic at present throughout Canada, accompanied by a rapid increase in urban populations, has created public health engineering problems many of which are new and complex. These problems have presented an ever-widening range of opportunity for greater service. This division, with seven district and two sub-district offices located across Canada, has been able to give reasonable attention to its statutory duties and at the same time to provide valuable assistance to other departments of government through consultation and engineering reports on problems of mutual interest in the field of environmental health.

Activities of the Division are directed to those phases of the environment which have a bearing on the health of travellers, the operating personnel of railways, vessels, and aircraft; of visitors to national parks and other federal property, and employees. In addition, the Department is responsible for the enforcement of certain international requirements governing the handling and shipping of shellfish.

### **Co-operation With Other Federal Agencies**

Assistance to other federal departments when advice was sought on problems of sanitation is expanding year by year. The time and attention given to special projects throughout the fiscal year reflects favourably on the growth and service offered in the work of this Division. Participation in the Aklavik and Coppermine relocation surveys involved the examination of possible water sources, analytical field chemical determinations in the field and stream gauging operation. Advice was also sought and recommenda-

tions made on sewage disposal and matters pertaining to sanitation throughout the Yukon and the Northwest Territories. Data was obtained on a continuing research project at Yellowknife to determine the effects of soil temperatures on underground services. This project is a co-operative effort with the National Research Council. Water and sewerage problems for the Department of Transport were studied at Fort Simpson.

Increased attention and assistance was given towards the development of proper operation technique at a large number of sewage disposal treatment plants constructed over the past few years by the Department of National Defence. New plants under construction were also assessed and recommendations made concerning their adequacy. A special survey was requested to evaluate and to determine the degree of sewage treatment required at the Valcartier Military Camp. This involved study of the Jacques Cartier River in relation to the character and volume of waste to be discharged and the ability of the stream to assimilate such waste without causing deterioration in river water quality to the detriment of communities downstream from the point of discharge. Special water problems were investigated for military camps in Nova Scotia. Consultation services were provided in the review of an operators' manual for the development of uniform procedure in the operation of water and sewerage systems of the Department of National Defence.

The extension of services and the construction of water and sewerage systems at Indian residential schools and hospitals has resulted in increased attention given to public health engineering problems at these various projects. In several instances, complete plans were prepared for the construction and installation of sewage treatment systems. In other cases, engineering reports were prepared following field survey studies to facilitate preparation of plans and specifications by the department concerned for the necessary remedial works. Special studies were made at several Indian schools following outbreaks of disease which might be attributed to contaminated water.

Close cooperation was maintained with the National Parks Branch of the Department of Northern Affairs and National Resources on problems of mutual concern. These include surveys of conditions relating to water supplies, sewage and waste disposal, restaurant sanitation and swimming pools. Special investigations were made of the bacteriological condition of the Bow River within Banff National Park; and of the problem of providing adequate facilities for the treatment of sewage waste from proposed buildings at the new Alexander Graham Bell site at Baddeck, Nova Scotia. The latter required special consideration to assure protection of shellfish interests.

### **International Joint Commission Studies**

The Division with representation on various Advisory Boards to the International Joint Commission on Control of Water and Air Pollution participated in conferences held under their auspices. A major portion of the time of the regional office at St. Catharines was devoted to field work involved in special boundary water pollution surveys in the St. Clair and Detroit River areas. These projects included an industrial waste phenol survey, sampling and analytical determinations throughout the St. Clair River, and taste and odour studies of the raw water supplies at the principal municipalities bordering on the St. Clair and Detroit Rivers, using the carbon filter extraction technique. Increased activity in the control of pollution of these waters was due to the concern expressed by the State of Michigan on the effect of industrial waste discharges on sources of municipal water supplies. These wastes are said to contribute to taste and odour disturbances.

### **Yukon Problems**

At the request of the Alaska Territorial Health Department, sanitary conditions at construction camps located in Canada for the Haines-Fairbank Oil Products Pipe Line were examined and reported on. This work also provided an opportunity to render service



in co-operation with the public health department of the Yukon Territorial Government in the examination of water supplies and sewage systems at military camps; and to deal with other public health problems on sanitation enroute along the Alaska highway.

### **Provincial Co-operation**

As in past years the Division participated through committees and health officials in maintaining close co-operation with all provincial agencies on problems relating to environmental health. Continuing contact was maintained with the Alberta health authorities concerning the pollution of the North Saskatchewan River. The alleged contamination of wells at Parent, Que., by drainage or infiltration of surface waters from cinder fill on C.N.R. property was investigated. Conclusions reached showed that the high iron content of the wells was due to natural mineralization of the ground water from marsh areas in the immediate vicinity. Studies and conferences were continued at the request of the Quebec City Health Department and Quebec provincial health authorities into the discharge of laboratory and plant wastes from establishments of the Department of National Defence and Defence Research Board into the St. Charles River.

### **Shellfish Control**

Control of the shellfish industry has required much time and effort in those provinces in which shellfish are produced commercially for export. Initial surveys of all potential producing areas in Newfoundland, Nova Scotia, Prince Edward Island and New Brunswick are nearing completion, and re-surveys of other areas are being carried out to bring available information up-to-date. The control of producing areas in Quebec is now an active issue, and professional assistance has been provided to the province's Ministry of Fisheries and Ministry of Health in carrying out field investigations and in the organization of their control program. In British Columbia the co-operative control program has been continued with the Department of Health and Welfare. The depletion of producing areas and the increasing demand for shellstock is making effective control of the industry more difficult. Although this is essentially a problem of the Department of Fisheries, it is of grave concern to this department due to the tendency of producers to obtain shellfish from areas which have been closed due to pollution. Control of shellfish toxicity has also been of special interest because of the high toxicity levels found in certain producing areas in Quebec. An extensive sampling program undertaken by the province has provided much valuable data. The need for strict control was emphasized by an occurrence of poisoning in the vicinity of Metis Beach which resulted in two deaths and severe symptoms in a party of seven who ate toxic shellfish.

### **Laboratory Services**

Through laboratories established at William Head, B.C., and at St. Catharines, Ont., the Division has been able to provide a service to federal departments for chemical and mineral analyses of water supplies. This service has been favourably received and has been utilized on various occasions by provincial departments of health. A number of fluoride determinations have been made this past year to ascertain the natural content of this substance in various sources of water supply. Numerous requests from the public are received for such information in view of the widespread interest in fluoridation.

The laboratory facilities at St. Catharines continue to be of much value in connection with pollution studies on boundary and other waters and for industrial waste effluent surveys. Specific problems involving chemical analyses for determining corrective measures in water treatment were conducted for various federal departments. Field and laboratory studies of the presence of iron bacteria in water supplies were made to determine effective treatment and control procedures to overcome operating difficulties where this troublesome problem exists.



To facilitate accurate bacteriological evaluation of water supplies the Division purchased an Isopor Water Laboratory which permits the use of MF membrane filter technique in determining the type of bacteria present. With this portable equipment a bacteriological evaluation of a water supply can be secured during the course of the field work. The Isopor Water Laboratory has been successfully used to date in the field during survey work at Parent, Que. It is expected that there will be many opportunities for its useful application in the field of public health, especially in those areas which are so remote and inaccessible that utilization of existing laboratory services is difficult or impossible.

### Grants

For the fiscal year 1954-55 more than \$742,270 has been allotted under the National Health Grants program for the support of environmental sanitation services. Of this figure, \$72,415 was for training purposes, \$29,513 for research and \$640,342 for the employment of necessary staff for local health units and city health departments.

### Educational Services

A number of technical papers were presented before professional gatherings or conferences by members of the Division. Lectures on water treatment and vessel sanitation were given to student officers at Marine Schools in Quebec. A series of lectures were given to fisheries inspectors in Newfoundland on water supplies for fish plants, waste and offal disposal and on other related sanitation problems. This was done at the special request of the federal Department of Fisheries. The Division participated in a lecture and demonstration program given on food sanitation to emergency food handlers at the Canadian Civil Defence College at Amprior, Ontario.

The Division continued to publish the monthly news bulletin "Public Health Engineering in Canada" at the request of the Advisory Committee on Public Health Engineering. No new publications were printed during the year owing to the utilization of available funds to reprint certain existing publications such as "Domestic Sewage Disposal", "Rural Waters" and others in both French and English, to meet the heavy demand for such material.

### Training Courses

Training for certain division personnel in specific phases of public health engineering was possible on several occasions by taking advantage of short courses at the Robert A. Taft Sanitary Engineering Centre at Cincinnati, the radiation course at Ottawa presented by the Radiation Section of this Department and other industrial conferences. A seminar on industrial wastes problems arranged by the Ontario Department of Health proved to be of much value to the Division both in exchange of technical data and the experience gained in the discussion of treatment methods in dealing with industrial wastes of a complex character.

### Field Work Summary

In all 940 sanitary surveys of water supplies, ice supplies (natural and artificial) and shellfish growing areas were conducted. A total of 6,436 water samples, 93 ice samples, 29 sewage effluent samples and 237 milk samples were taken for analysis. Some 1,059 examinations of railway property including stations, restaurants, bunkhouses, mobile work camps, coachyards and oil wastes disposal were made. A total of 106 examinations were made of sewage treatment plants to check their operation. During the year some 255 vessels' water systems were examined for compliance with statutory regulations.

## HEALTH INSURANCE STUDIES

Previous reports have pointed out that the term "health insurance" has many meanings. In its narrowest sense, it is a method of paying the cost of medical and hospital care and should properly be referred to as "sickness insurance". In its widest sense, it implies a method of financing a comprehensive health service which would ensure that financial barriers did not interfere with the provision of care and would ensure that facilities are provided in such a way that all people would have adequate health services. Since the introduction of the National Health Grants program, the Department has taken the view that its primary responsibility is to assist in providing an adequate health service, including the training of personnel, research, diagnosis, treatment, prevention and the provision of hospitals and other facilities.

The Division of Health Insurance Studies, with the assistance of the Research Division, has, therefore, continued to study the development of programs which provide medical and hospital care. These studies have been concerned with the provision and distribution of service, the cost of service and various methods of financing and organization. During the past year, the following reports have been prepared and distributed: "Voluntary Medical Care Insurance: A Study of Non-Profit Plans in Canada"; "Canadian Sickness Surveys—Special Compilations 5 and 6."

Work was continued on the proposed publication "Health Services and Resources in Canada" which is based on the health surveys financed through the health grants program and which should be completed during 1955-56. Foreign developments, particularly in Sweden and Australia, have been kept under review, and memoranda are to be issued in the near future.

Additional bulletins from the Sickness Survey, prepared and distributed in co-operation with the Dominion Bureau of Statistics, will also appear during 1955-56.

## NATIONAL HEALTH GRANTS

Under the stimulus of federal grants-in-aid, public health services throughout Canada have continued the expansion and development envisaged when the National Health Grants program was inaugurated seven years ago.

Viewed in financial terms, federal expenditures have grown from \$7,660,774 in 1948-49 to \$31,597,426 in 1954-55. The increase over 1953-54 was \$2,413,498; and payments for the seven-year period total \$154,762,907.

From the public health standpoint, the effects of the grants are discernable in greatly increased numbers of people, particularly in rural areas, served by full-time health personnel; improved treatment facilities in mental hospitals, tuberculosis sanatoria and general hospitals; stepped up case-finding for and a steadily falling death rate from tuberculosis; increased services and facilities for the prevention of mental illness and for the short-term treatment of these ailments; a new emphasis on public health research; a steady growth in diagnostic services; more hospital beds; more numerous well-trained public health personnel; and a stimulated interest in the third phase of medical care, rehabilitation.

### Development of Health Services New Grants

During the past year particular attention was paid to the development of the three new grants inaugurated in 1953-54. All 10 provinces and both territories have submitted

projects for utilizing the Child and Maternal Health grant for the improvement of health services for mothers and small children, with the objective of reducing maternal and infant mortality and morbidity. This is a long-term program and may require several years before its results are reflected statistically in a significant reduction in index rates. However, a beginning has been made by carrying on fundamental research in several centres; by encouraging the training of nurses to specialize in maternal and child care; by giving short, refresher courses for nurses and doctors; and by purchasing equipment to improve the care given to mothers at confinement and to newborn infants.

Six provinces have now forwarded plans for the development of medical rehabilitation services. As a shortage of adequately-trained personnel still constitutes the main bottleneck in developing rehabilitation services, considerable attention has been given to training programs. With the assistance of grants, schools for physiotherapists have been set up in Montreal and Edmonton, and training has been financed at other specialized centres for a variety of categories of rehabilitation workers, including physiotherapists, bracemakers, nurses, speech therapists and physicians. Substantial quantities of equipment have been purchased to set up rehabilitation centres or to extend the services of those already in operation. Close co-operation has been maintained with the Welfare Branch of the Department in relation to the development of its program of disability allowances.

### **Professional Training**

During the second year of its operation, eight provinces utilized funds from the Laboratory and Radiological Services grant as a means of improving the quality of medical care by providing diagnostic facilities in areas not already adequately served. As in most other fields, a dearth of well-qualified personnel has prompted almost all provinces to set up courses, with the assistance of grant funds, for the training of laboratory and radiology technicians. In addition, bursaries have been provided for advanced training of bacteriologists, pathologists, radiologists and biochemists. Equipment, both laboratory and x-ray, has been purchased to improve and extend the diagnostic facilities required for the practice of modern, scientific medicine.

The need for training workers in various health specialties is not a new problem but one which was recognized when the grants program was set up in 1948. A special grant of \$500,000 per year (later increased to \$516,300 when Newfoundland entered Confederation) was designated for professional training, and provision was also made for training to be financed from almost all the other grants. To the end of this fiscal year, more than 9,100 persons, chosen by the provinces, have been assisted in obtaining additional training. Substantial sums have also been supplied to expand and develop training facilities for nurses, nurses' assistants, psychiatrists, clinical psychologists, psychiatric nurses and psychiatric social workers.

### **Nurses' Accommodation**

In connection with the training of nurses it should be noted that this year the terms of the Hospital Construction grant were broadened to permit the giving of grants, on the basis of floor areas, for certain facilities used in hospitals' training programs for health and hospital personnel. The hospital construction program has to date assisted with the provision of space for more than 54,700 hospital beds of all types, 6,500 bassinets, 8,500 beds in nurses' residences and for substantial areas for community health centres, combined laboratories and training facilities for nurses. In some areas of the Dominion and in certain categories of accommodation, notably tuberculosis sanatoria, the acute shortage of hospital beds now appears to have been met. In these areas the



problem is now one of keeping pace with growth in population and in replacing obsolescent buildings. This observation does not, however, apply to the country as a whole, nor to certain types of accommodation, specifically mental, chronic and convalescent hospitals.

## Research

Another noteworthy feature of the grants program is the attention given to fundamental research, without which no medical or public health program can progress. From a modest beginning in 1948, research has now developed into one of the most important aspects of grants assistance, totalling this year close to \$1,700,000. Studies are being carried out in 13 universities and in a number of hospitals, sanatoria and other research centres. Appraisal of research applications is carried out by special advisory committees working in collaboration with other federal research-sponsoring agencies.

Continued assistance has been given to the provision of staff and modern scientific equipment for sanatoria and to the free distribution of such drugs as streptomycin, P.A.S. and isonicotinic acid hydrazide to patients with tuberculosis. Programs for x-raying all persons admitted to general hospitals have been further extended, and support has been continued for mass x-ray surveys, particularly among persons exposed to the risk of contracting tuberculosis. Toward the end of the fiscal year a special departmental committee was set up to review the tuberculosis control situation in the light of the steadily falling death rate and to recommend changes in approach or emphasis if the facts warrant them.

## Cancer Control

Support was continued for a nation-wide cancer control program. As an important part of this combined federal, provincial and local effort, cobalt 60 beam therapy units have now been installed in Vancouver, Edmonton, Saskatoon, Winnipeg, Port Arthur, Windsor, London and Toronto, and arrangements are in process for units for Ottawa, Kingston, St. Boniface, Saint John, N.B., Quebec City, St. John's, Nfld., and for four units in Montreal. Through the National Cancer Institute of Canada and various provincial research bodies, assistance is being given toward fundamental research on possible causes of cancer and methods of control.

It is interesting to note that a piece of Canadian research, undertaken originally in connection with cancer, played a vital role in the development of the Salk anti-polio-myelitis vaccine. Canada's ability to take advantage of Dr. Salk's outstanding contribution to public health—described in detail in the introduction to the Health Branch section of this report—resulted from the close co-operation of provincial and federal health authorities and the ready availability of federal health grants to assist with developing a Canadian source of supply and financing the cost of the vaccine to be supplied free of charge to Canadian children. This co-operative procedure followed the earlier precedents established with ACTH, cortisone and gamma globulin.

## Health Units

During the year assistance was given to local health departments and newly-organized health units, thus extending the range of services and increasing the number of people so served.

In mental health emphasis has been on strengthening and expanding community mental health and child guidance clinics to prevent mental illness or reach it in its early stages and on the development of psychiatric wards and psychiatric outpatient depart-



ments in general hospitals to care for short-term mental illnesses and to avoid prolonged hospitalization in mental institutions.

### Surveys

All the provincial surveys of health services and facilities have now been received. These have been carefully studied, and a national report based on them is being prepared in collaboration with the Research Division and is expected to be ready for publication shortly.

Data from the 1950-51 Sickness Survey are still being analyzed by the Dominion Bureau of Statistics. Two more bulletins dealing with national estimates of the volume of sickness and of permanent physical disabilities were issued in the current fiscal year. A number of other special compilations of information are to be made from the available data to provide, in total, material for a detailed study of the extent and economic implications of illness in Canada and to guide public health authorities in their program planning.

### Provincial Co-operation

Any success achieved by the National Health Grants program has resulted in large measure from the co-operation of provincial health authorities of all ranks. Meetings of the Dominion Council of Health, special regional gatherings and conferences on specific problems have all been utilized to develop this co-operative spirit and to eliminate problems of administration.

### Personnel

On October 1, 1954, when Dr. F. W. Jackson, who had directed the National Health Grants program since it began, was appointed Director of Health Services, the responsibilities of the Directorate of Health Insurance Studies were divided. Dr. G. E. Wride, formerly assistant director of Health Insurance Studies, was made a Principal Medical Officer in charge of National Health Grants administration, and health insurance studies *per se* were made the joint responsibility of Dr. C. A. Roberts and the Director of the Research Division, Dr. J. W. Willard.

## RESEARCH DEVELOPMENT

### MEDICAL RESEARCH

Financial support for medical research carried on both intra- and extramurally during the fiscal year 1954-55 totalled \$2,296,502. The sum of \$548,750 was for the intramural program and \$1,747,752 for extramural grants-in-aid of medical research in universities and other research-performing institutions.

The intramural program encompasses those investigations carried on by the various technical and scientific units of the Department and in general is aimed at devising new or improved methods of performing the service functions of these divisions. It refers particularly to detection and assay work, e.g., that associated with the administration of the Food and Drugs Act and studies of new techniques such as in the control of biological products or the investigation of occupational hazards. Additionally, however, it may be aimed at gaining new knowledge of public health importance or related to urgent national health problems of a nature not ordinarily undertaken by a single province, university or research institution, concerning which the Department may be looked to for leadership and guidance.

Details of estimated allocations for the intramural research program for 1954-55 are presented in Table 8, following. In considering these figures it should be borne in mind that the close and almost inseparable relationship of research to service functions throughout the intramural program makes it difficult to determine as precisely as might be desired the proportion of the cost which can properly be defined as research expenditure. In many instances the research is a by-product of the service function.

The extramural program consists of grants-in-aid of medical research conducted in universities, hospitals and other research institutions from funds provided under the National Health Grants program. This began in 1948 with an initial support of \$100,000 in the Public Health Research Grant on the introduction of the health grants. Each succeeding year this grant was increased by a like amount up to a maximum of slightly over \$500,000, at which level it now stands. Additionally, allocations from other health grants have been utilized in varying amounts in support of medical research centered generally in the field for which the grants are specifically designated.

From the outset, funds devoted to medical research under all grants have increased from a little more than \$100,000 to almost \$1,750,000 for this fiscal year. The specific allocations according to grant and province involved will be seen in Table 9, which follows.

It will be noted that about one-third of the total funds are derived from the Public Health Research Grant with a somewhat larger amount from the grant for mental health. About \$400,000 of the General Public Health Grant have been allocated for research, with lesser amounts in the fields of tuberculosis control, crippling conditions in children and child and maternal health. The allotments from the Cancer Control Grant totalling \$97,000 have been matched by provincial funds and are utilized under the auspices and supervision of the National Cancer Institute for fundamental research in this field.

Generally, under the Public Health Research Grant studies fall into such fields of medicine as bacteriology, virology and immunology, obstetrics and gynaecology, internal medicine and in nutrition, with fundamental research in biochemistry and pharmacology generally related to these fields. Under the General Public Health Grant, the fields of cardiology including cardiac surgery, special senses, principally ophthalmology, hypersensitivity conditions, internal medicine, bacteriology, and epidemiology and bio-statistics, receive major attention.

Mental health projects relate to problems generally centred in the fields of psychology and psychiatry, neurology, and social medicine and genetics. Those supported by other health grants have, in the main, a direct bearing upon the specific area designated by the title of the grant.

TABLE 8  
(Research Development)

ALLOCATIONS FOR INTRAMURAL RESEARCH PROGRAMS

<i>Division</i>	<i>Estimated Expenditure</i>
Civil Aviation Medicine .....	\$ 2,500
Dental Health .....	15,000
Epidemiology .....	16,000
Food and Drug Directorate .....	100,000
Laboratory of Hygiene .....	261,000
Nutrition .....	40,000
Occupational Health .....	114,250
Total .....	<u>\$548,750</u>

TABLE 9  
(Research Development)  
ALLOCATIONS FOR RESEARCH UNDER THE NATIONAL HEALTH PROGRAM BY PROVINCES — 1954-1955

PROVINCE	Crippled Children	Mental Health	Tuberculosis	Public Health Research	General Public Health	Child and Maternal Health	Assistance to National Cancer Institute	Total
Prince Edward Island.....							899	899
Nova Scotia.....		30,000		27,254				57,254
New Brunswick.....		6,802					7,500	14,302
Quebec.....		155,712	23,040	210,897	108,170		36,210	534,029
Ontario.....	39,090	258,893	57,937	156,464	258,043	48,339	41,602	860,368
Manitoba.....		2,730		19,978	21,144		11,000	54,852
Saskatchewan.....		39,244	7,200	30,106	18,745			95,295
Alberta.....				6,825	6,280			13,105
British Columbia.....		73,869		38,779				112,648
Northwest Territories.....				5,000				5,000
TOTAL.....	\$39,090	\$567,250	\$88,177	\$495,303	\$412,382	\$48,339	\$97,211	\$1,747,752

## EPIDEMIOLOGY DIVISION

The interests and functions of the Epidemiology Division can best be expressed by a definition of epidemiology as "that branch of science which has to do with the natural history of disease—its cause, the means by which it spreads and the conditions which favour or hinder its spread, whether it be an infectious process, a disease or a psychologic state in a human community".

With the relative decline in the importance of communicable diseases as public health problems in recent years some re-orientation of interest toward the problems of chronic diseases has been possible.

This Division has continued its role as a service division and in addition has participated and assisted in the investigation of specific disease problems.

### National Health Grants

**Venereal Disease Control**—The Division has continued to assist the Principal Medical Officer of the National Health Grants program in administering the Venereal Disease Control Grant. Assistance was given in the development and maintenance of venereal disease control measures at provincial and local levels. Statistical data concerning venereal disease infections have been collected, compiled and analyzed. Revisions of the publications "V.D.—What You Should Know" and "Syphilis and Gonorrhoea" are in progress. Co-operation in the evaluation of treatment, follow-up and laboratory procedures has been maintained with the provinces.

**Tuberculosis**—Continued assistance to the Principal Medical Officer administering the National Health Grants program in connection with the Tuberculosis Control Grant has been given, in consultation with the executive secretary of the Canadian Tuberculosis Association. National and provincial agencies providing tuberculosis control programs were assisted in their functions.

### Consultations

At the request of the Nova Scotia Department of Public Health, an investigation was made into an outbreak of infectious disease, suspected to be smallpox, in Cape Breton Island.

The Poliomyelitis Vaccine Evaluation Center in Ann Arbor, Michigan, was visited and close contact maintained with new developments in the use of poliomyelitis vaccine. This information was made available to departmental and provincial officers.

### Surveys

**Detroit-Windsor Air Pollution Health Study**—This Division had as a major responsibility in 1953-54 the planning, organization and conduct of the Detroit-Windsor Air Pollution Health Study, which continued in the past year. The International Joint Commission's technical advisory board on air pollution problems had previously requested technical assistance from this Division in setting up a joint field study. American participation was also required to determine the effect of air pollution on the health of individuals in the Detroit and Windsor areas. The major field study is now in progress on both sides of the river. Enumerators were employed and trained and are presently visiting some 800 families every two weeks in Windsor, Kingsville, Harrow and Simcoe, while enumerators from the Detroit City Department of Health are visiting some 450 families on the American side of the river. The data for the first 18 months of the study were analyzed and presented to the International Joint Commission at their annual meeting in Washington in April, 1955. It is expected the present phase of the study will be completed by July, 1955.



**Brucellosis in Eskimos**—With the Indian Health Services and the Laboratory of Hygiene, this Division assisted in the planning of a serological study to investigate the prevalence of brucellosis in Eskimos.

**Bulbar Poliomyelitis and Tonsillectomy**—This Division took part in the planning and conduct of a study in Manitoba under the direction of the provincial Department of Health to investigate the relationship of bulbar poliomyelitis and tonsillectomy. To assist in the interpretation of these results, this Division completed a study of the tonsillectomized state of 3,000 persons in Windsor, Kingsville, Harrow and Simcoe, Ont.

**Evaluation of Influenza Vaccine**—This Division, in conjunction with the Laboratory of Hygiene and the Institute of Microbiology, Montreal, assisted in the planning and took an active part in carrying out a study of the effectiveness of influenza vaccine prepared by the Institute in preventing influenza. Approximately 8,000 volunteers in Quebec Province participated in the study.

### Miscellaneous Activities

The technical information section has regularly indexed, abstracted and maintained files of medical articles and statistical information obtained from some 50 medical journals and another 50 epidemiological and statistical reports received from various countries and from the World Health Organization.

Approximately a hundred medical enquiries have been answered every month on a variety of subjects such as tuberculosis, cancer, poliomyelitis and many chronic and communicable diseases.

In addition, bibliographies and summaries have been compiled from medical literature, departmental files and from other sources on epidemiological subjects for departmental use and at the request of other departments and scientists in various countries.

Material concerning the standardization of communicable disease reporting and control procedures in Canada was prepared by this Division, at the suggestion of the Dominion Council of Health, as an assistance to the provinces. This was circulated to provincial Departments and was used by one province this year as the basis for their newly-revised regulations.

As a member of the Canadian Influenza Information Center, this Division provided an information service for the collection and dissemination of data concerning epidemic influenza in Canada, the United Kingdom and other countries.

During 1954, arrangements were made to receive weekly telegraphic reports of the incidence of poliomyelitis from all provinces. This information was consolidated and analyzed and a weekly statement was provided to interested agencies in this and other countries.

## LABORATORY OF HYGIENE

### General

The Laboratory of Hygiene, which is essentially a national public health laboratory, has three major functions: service, research and control. The first two are authorized by the Department of National Health and Welfare Act which states that the Department is authorized to carry out "investigation and research into public health and welfare". The third function is performed by the Laboratory of Hygiene as part of a consultant service to the Director of the Food and Drug Directorate.

Service, as in past years, consisted mainly of the provision of special diagnostic reagents to the provincial public health laboratories, the performance of certain rare or complicated laboratory examinations which could not be performed feasibly in most provincial laboratories and the presentation of short-term training courses in special

fields of public health laboratory work. During recent years, however, the services provided by the Laboratory of Hygiene have been broadening. During the past year, many tests and reagents and considerable technical advice were made available to other Government agencies, such as Indian Health Services, Civil Defence and the Armed Forces. Assistance to the provinces again went beyond the former borders of public health laboratory activities when a survey of public health and laboratory services was carried out in Manitoba, the sixth province to request such a survey.

The fundamental and applied research programs of the Laboratory continued. Immunization studies to determine the value of multiple antigens were instituted in co-operation with the Indian Health Services. The program initiated last year in collaboration with Montreal City Health authorities to determine if infants can be protected from pertussis (whooping cough) by actively immunizing their mothers during the third trimester of pregnancy was continued. The studies relating to oral immunization with diphtheria toxoid were completed. It was found that this route has a limited value when used as a booster for adults but has no value as a primary stimulant. Fundamental research was continued into the nutritional requirements of mammalian cells under a variety of conditions, as were several investigations to determine the specific antigenic composition of certain viruses, bacteria and toxins.

The highlight of the control program this year was the testing for safety of over 20 lots of poliomyelitis vaccine produced by Connaught Laboratories, Toronto, and intended for use by the various provincial departments of health. The safety tests required to ensure the safety of this vaccine are, at the moment, most elaborate. Many hundreds of hours of professional and technical time were devoted to this project and some 500 monkeys were used as well as numerous other small animals and several hundred tissue culture preparations. It was most fortunate that the new Virus Laboratories were available for occupancy before this testing program was undertaken. Such a program could not have been handled in the old quarters.

During the year, plans for a new building to house the main unit of the Laboratory of Hygiene were completed, and construction is expected to commence shortly. The Director of the Laboratory spent a number of months in Europe on a World Health Organization travelling fellowship. Most of his time was devoted to a study of those broad health problems which should determine the functions of public health and hospital laboratories. The information obtained on this trip will very likely have an appreciable influence on future developments of medical laboratories in Canada.

### Biochemical Research

During the year, studies on the nutrition of mammalian cells cultivated *in vitro* were continued and extended. In the course of this work, 410 new synthetic media for tissue cells were devised and tested on approximately 14,000 cultures. Mixture 199 of Morgan, Morton and Parker was used as a basic medium.

Earlier work from this section indicated that coenzymes might be necessary to extend the survival of tissue cells in chemically-defined media beyond the present 35-40 day period. A paper on this work has been submitted for publication. Studies on certain cofactors and new vitamins are being continued.

The critical requirement of isolated tissue cells for the amino acid L-cystine has been studied. The first of a series of publications on this work, which includes a survey of nearly 30 sulfur-containing compounds has been accepted for publication in the Journal of Biological Chemistry. A complex inter-relationship between the amino acids L-cystine and L-methionine and choline, another normal body constituent, has been revealed, and detailed investigation of this metabolic system is in progress.

Studies on the essential role of L-cystine have been extended to several strains of malignant cells which are under cultivation. In addition to the ascitic tumors and

the "L" strain, which were in use last year, HeLa strain cells, from a human cervical tumor, were obtained from Dr. Wm. F. Scherer of the University of Minnesota. It has also been found possible to store many of these special strains of cells in the frozen state and revive them as required. This will decrease the amount of routine (non-experimental) work required in their maintenance.

The use of chromatography has made it possible to analyse the nutrient media before and after cells have grown in it. This technique has yielded specific information on the rate at which cells utilize the ingredients of Mixture 199 and will form the basis of future improvements of this nutrient solution. These studies have also provided the basis for a specific test for the amino acid DL-homocysteine. An account of this test has been submitted for publication.

Experiments relating the rate at which cells utilize sugar to the total mass of tissue present have been undertaken. This work is being continued, and it is hoped that it will yield a better and quicker method for assaying new substances for the nutrition of cells *in vitro*.

A collaborative project with the Clinical Laboratory Services was undertaken to investigate the nutritional requirements of *Treponema Pallidum*, which has never been cultivated in the absence of living cells. In this work 60 experimental solutions have been prepared and tested.

During the past two years extensive studies have been carried out, in collaboration with the Virus Section, on the propagation of influenza and mumps virus in tissues cultivated in chemically-defined media. The initial stages of this investigation have now been completed and the results published in the Canadian Journal of Microbiology, Vol. 1, December, 1954. Throughout the past year, particularly since November, 1954, large quantities of Mixture 199 have been prepared and supplied to the Virus Section for use in testing the poliomyelitis vaccine.

During the last eight months a start has been made in research associated with cancer. The major project is a study of the role of arginine in the synthesis of nucleic acids. Preliminary work has involved the partial purification of an enzyme from beef kidney with the capacity to synthesize arginine derivatives and a study of organic reactions utilized in the incorporation of radio-active carbon into these derivatives. Equipment for the routine study of urine and serum amino acids is being constructed.

Work in progress prior to the start of these experiments is described under the title "Arginine Degradation by *M. pyogenes* var *aureus*", in the Canadian Journal of Microbiology, April, 1955. A new method for the estimation of glucosamine has been devised. A description of the procedure has been prepared for publication.

## Biologics Control Laboratories

Research and control constitute the two main functions of the Biologics Control Laboratories. The control work relates to the Laboratory of Hygiene's functions in its technical and advisory capacity to the Director of the Food and Drug Directorate. Research is divided into two main fields—immunology and antibiotics.

(a) **Section—Biologics Control Laboratory**—Tests for sterility, safety, identity and potency of biological drugs, such as vaccines, toxoids, antisera, were carried out as usual. A total of 1,678 specimens were handled throughout the fiscal year. Seventy samples of diphtheria and tetanus toxoids were examined and found to be of satisfactory potency. Testing on parenteral fluids for marketing and on blood transfusion materials and equipment for the Canadian Red Cross Blood Donors Service were continued. Three hundred and fifty-two samples representing 329 lots of preparations were tested for pyrogenicity and, of these, 18 (5½ per cent) were found to be unsatisfactory.



The control of medical supplies and biological products used by the Department of National Defence was continued through the Inspection Services. A total of 712 samples representing 200 lots of supplies or products, such as shell dressings, gauze bandages, absorbent cotton, burn dressings, silk and catgut sutures, were examined. Of these, four (two per cent) were found to be unsatisfactory.

Certain categories of products such as liver extract, ACTH, intravenous solutions, etc., were tested for pyrogenicity in addition to sterility and safety. A total of 145 samples were studied, and 21 of them (14 per cent) were rejected because of pyrogenicity. Three hundred and eleven samples of poliomyelitis vaccine were examined for freedom from bacterial contamination. This represented 19 lots, all of which were found to be satisfactory in this respect.

(b) **Section—Immunology**—The studies relating to oral immunization with diphtheria toxoid were completed.

Immunization studies in co-operation with the Indian Health Services of this Department have been instituted. To date, 1,100 blood specimens have been received from Indians and Eskimos across Canada, and these have been tested for 13 different antibodies. It is hoped that these results will serve as an indicator for future immunization programs. Three studies are now under way to determine (a) the optimum dosage for diphtheria immunization, (b) the effect of using six antigens, i.e., T.A.B. vaccine plus diphtheria-tetanus-pertussis, and (c) the value of pre-natal immunization against typhoid and para A and para B.

The value of pre-natal immunization against whooping cough is being studied in collaboration with the Montreal City Health authorities. Blood specimens have been received from more than 100 mothers and their offspring. The pertussis antibody titres of the mother's blood at parturition and the antibody level of the baby's blood at three and six months were determined. The study of passive immunization of infants resulting from the inoculation of their mothers during the last trimester of pregnancy is still in progress.

(c) **Section—Immunochemistry**—During the year this section continued to carry out chemical assays of antibiotic preparations in co-operation with the section of Antibiotics.

The laboratory participated in a collaborative assay sponsored by the World Health Organization for the setting up of an international standard for terramycin. At the invitation of the United States Food and Drug Administration, chemical assay was also carried out in collaboration with other laboratories on a proposed reference standard for chloramphenicol. In addition, a number of chemical determinations were made on different lots of antibiotic preparations received for marketing certification.

During the year a radio-isotope unit was established. The first project will be to label with radio-active iodine, purified antigens of *H. pertussis* to determine the route and distribution of the organisms following inoculation. Some preliminary work to determine the effects of iodination on antigenicity has been carried out.

(d) **Section—Antibiotics Laboratory**—During the year, approximately 500 separate samples of antibiotics were received. This material represented 17 different antibiotics and more than 200 different antibiotic preparations and formulations. Nearly all of these specimens were new antibiotics or new formulations submitted by various manufacturers for examination. A summary of tests performed on these samples follows:

Potency (various types of assays)—510; toxicity—150; sterility—90; pyrogens—69; moisture—25.



On behalf of the Inspection Board, Department of National Defence, analyses were performed on 48 lots of antibiotics. Specimens were also identified and examined for purity and potency for the Defence Research Board.

As required by the Food and Drug Regulations, inspections were made of 38 establishments producing biological products. Because of unsatisfactory conditions found in some of these plants, the Canadian biologics licence of two firms was cancelled and suspended in the case of two other concerns. Improvement in manufacturing techniques for methods of testing were recommended in several other instances.

A total of 40 new drug submissions were received from manufacturers who wished to place this material on the Canadian market. This literature was carefully examined and, in most instances, specimens of the product were obtained and tested.

The increased incidence of infection caused by antibiotic resistance of staphylococci has led to an investigation of the staphylococcus toxins. The toxin-producing qualities of a large number of staphylococci were examined, and various techniques for producing the toxin were studied. Methods have been developed for removing the active toxin from the media in which it was produced. By fractionation procedures, partial purification of the toxin has been accomplished. Attempts are now being made to separate the various active principles of the toxin and to define some of the chemical characteristics of this material. It is hoped that some of it may be of value as an immunizing agent.

### **Bacteriological Laboratory Services**

(a) **National Staphylococcus Bacteriophage Typing Centre**—The Laboratory of Hygiene acts as a national reference centre for the type identification of pathogenic staphylococci, those micro-organisms commonly responsible for boils, breast abscesses, pustular infections and many other pyogenic infections. There are at least 30 different types of pathogenic staphylococci which can be differentiated by bacteriophage typing. Many of these types are of epidemiologic importance, and it is only by typing that outbreaks of staphylococcal infection can be studied and controlled. During the year, 290 cultures, most of which were from outbreaks in hospitals in Saskatchewan, Alberta, Quebec and Ontario, were received for typing. Two hundred and seventy-one (93 per cent) were successfully typed. Sets of phages (20) and of their propagating strains (223 phages and 214 staphylococcal cultures) were distributed to 11 laboratories throughout Canada. During the year a new type "81" was discovered and described, and confirmed by the International Centre in London with which the activities of the National Laboratory are closely integrated. A senior member of the staff is a member both of the Sub-Committee of the International Association of Microbiologists on the Bacteriophage Typing of Staphylococci and of the Sub-Committee on Bacteriophage Typing of the American Public Health Association.

Two scientific papers were presented during the year, one "Resistant staphylococcal Infections" to the combined meeting of the Section of Industrial Medicine of the Ontario Medical Association and the Industrial Medical Association of the Province of Quebec (Can. Serv. Med. Jour., Dec., 1954), and the other "Staphylococci Resistance to Antibiotics and Phage Types" to the meeting of the Laboratory Section of the Canadian Public Health Association (Abstract, C.J.P.H., Jan., 1955).

(b) **National Enteric Bacteriology Centre**—This laboratory continues to function as the official national reference centre for the identification (typing) of salmonella and shigella. During the year, 1,007 cultures and 16 stool specimens were received for diagnosis. Of these, 668 were identified as salmonella (318 of human origin and 350 from animal sources), 155 as shigella, 6 as *alkalescens-dispar*, 42 as paracolons, 68 as *Escherichia coli* and 28 belonging to other genera. Information on the distribution of these bacteria throughout Canada was collected and reports were issued quarterly and annually to the provincial public health laboratory directors on the incidence and special

epidemiological features of the infections caused by these bacteria. The predominant salmonella types received from human sources were *S. typhi murium* (117), *S. typhi* (41) and *S. paratyphi B* (29), while the predominant animal strains were *S. typhi murium* (95), *S. thompson* (80) and *S. bareilly* (80). The most common shigellae received were *Sh. sonnei* (98), *Sh. flexneri* 3 (43) and *Sh. flexneri* 2A (9).

This year, five Salmonella serotypes were reported in Canada for the first time: *S. give* in Alberta from turkeys, *S. infantis* in Quebec from humans, *S. dublin* from humans in Quebec, *S. litchfield* in Nova Scotia from humans (also isolated in the Ontario laboratories) and *S. loma linda* in British Columbia from humans. During the year 32 different serotypes were identified and the total number of types which have been reported in Canada to date is now 62. Diagnostic reagents prepared and supplied to the provincial laboratories and to D.V.A. hospital laboratories included a total of 330,810 ml. of carefully standardized antigens and 1,391 ml. of antisera. During the year, 15 *E. coli* antisera were added to the list of reagents available at the Laboratory to allow the provincial public health laboratories to identify all those serotypes of *E. coli* which have been associated with infantile diarrhea.

Close liaison is maintained with other national centres through the World Health Organization's International Reference Centres at Copenhagen, Denmark, and Chamblee, Georgia, U.S.A.

Research is being carried out on transduction of various characteristics in the salmonella genus, and a paper describing a method for separating mixed cultures of salmonellae was published in the Canadian Journal of Microbiology.

(c) **Miscellaneous Bacteriology**—The laboratory continued to act as a reference centre for the serologic grouping and typing of haemolytic streptococci. A total of 836 ml. of diagnostic antisera was prepared and distributed to various public health and hospital laboratories. Collaborative studies with the Hospital for Sick Children, Toronto, on rheumatic fever were continued, the laboratory carrying out anti-streptolysin O (ASO) titrations on 142 specimens of patients' sera during the past year. A number (47) of ASO titrations were also carried out for other hospitals and for some of the provincial public health laboratories.

During the year 70 unusual cultures were received for study and identification. In addition, 49 cultures of *C. diphtheriae* were received for typing and virulence testing. Gravis type 2 (23) and Intermedius (19) were the commonest found. In monkeys, from the monkey colony dying of intercurrent infections, *Pneumococcus* type 19 was isolated from the lungs of six and *Pasteurella multocida* from four.

## Sanitary Bacteriology

The Laboratory continued to provide services to the Food and Drug Directorate and to the Division of Public Health Engineering with particular emphasis on the shellfish-producing areas in the Maritime Provinces.

(a) **Shellfish Control**—As part of the control of the shellfish industry and of certification of shippers by the Department of Fisheries for export of their produce to the United States, the mobile laboratory conducted bacteriological surveys in two shellfish-producing areas in New Brunswick and Nova Scotia. In the course of these surveys 855 water samples and a number of shellfish specimens were tested.

(b) **Clam Studies**—The research project established the previous year on the cleansing of soft-shell clams was continued. A suitable cleansing site was located after extensive testing of water samples, and a large scale semi-commercial clam-cleansing study was conducted. A total of 850 water samples and 267 clam specimens were examined during the study. It was found that self-cleansing in natural sea-water was

an effective procedure for the cleansing of moderately polluted soft-shell clams but that adequate bacteriological control must be provided for any proposed commercial clam-cleansing operation.

(c) **Continuing Research**—Investigations of the incidence and significance of coliform bacteria and enterococci and of the relative efficiency of various techniques for the enumeration of these organisms were continued during the year. A paper, "Bacterial Indices of Pollution in Oyster-Producing Areas", was presented at the meeting of the Canadian Society of Microbiology and another, "The Membrane Filter in the Bacteriological Analysis of Sea Water", was read at the meeting of the Laboratory Section of the Canadian Public Health Association.

(d) **Shellfish Toxicity Control**—A total of 775 shellfish extracts were tested for toxicity during the year. This appreciable increase was due largely to the development of clam-producing areas in the Province of Quebec. An outbreak of paralytic shellfish poisoning occurred on July 15, 1954, at Metis Beach, Quebec, when soft-shell clams, obtained from a 'closed' area, caused serious illness and two deaths in a family of seven persons. Officers of this laboratory collaborated with the Quebec Department of Fisheries in investigating this outbreak, and a report of the investigation was published in the Canadian Medical Association Journal, March 15, 1955.

(e) **Miscellaneous**—Seven surveys of bacteriological and sanitary conditions in five cafeterias in government buildings in Ottawa and Arnprior were carried out during the year. Ninety-three utensils used in the serving and preparation of food were examined bacteriologically. Reports with recommendations regarding the control of sanitation in these establishments were submitted to the Departmental Canteen Committee.

Water samples (237) were examined bacteriologically for the Public Health Engineering Division and for other agencies. Forty-eight specimens of meat were received and tested serologically for identity. More than 12,000 ampoules of lyophilized cultures were prepared during the year.

## Parasitology

This sub-section continued to operate at the Institute of Parasitology, Macdonald College, P.Q. Three hundred and fifty-three specimens were received for parasitological diagnosis from provincial laboratories and from various hospitals. In addition, 21 requests for various parasitological antigens were filled, four requests from provincial and D.V.A. laboratories for sets of parasitological material for teaching and review purposes were sent out on loan, and five requests for living *E. histolytica* cultures were filled.

Two separate courses of four weeks' duration for senior laboratory technicians in practical laboratory parasitology were given with representatives from the Department of Veterans Affairs, provincial laboratories of health and the Canadian Navy attending.

A paper, "Reaction to Temperature by Infective Larvae of Nematodes", was submitted for the Royal Society (Zoology Section) meeting in Toronto in June.

## Virus Research Laboratories

In April 1954, a laboratory investigation was undertaken at the request of the Department of Public Health of Saskatchewan on the serological evidence of neurotropic virus infections in poliomyelitis patients who had shown unusually severe and atypical symptoms during their acute illness in the summer of 1953. The survey of about 500 cases resulted in the discovery of complement fixing antibodies to the Western type of equine encephalomyelitis virus in about six per cent of the sera tested, all of which came from one particular area. This result indicated that the disease had been a complicating factor during 1953 epidemic of poliomyelitis in Saskatchewan.



At the request of the Department of Veterans Affairs in British Columbia, a serological survey was carried out on cases of multiple sclerosis to establish if a relationship between this disease and one or the other of the neurotropic virus diseases existed. Such a relationship had been claimed by a research group outside of this country. No antibodies to the known equine encephalitides were found in these patients, and no relationship between these diseases and multiple sclerosis could thus be established.

Between January and March, 1955, a total of 150 representative samples of throat-washings for the isolation and identification of influenza virus was received from most of the Canadian provinces. A laboratory investigation of these specimens was undertaken by the Virus Laboratories, representing the Canadian Information and Strain Typing Centre for the World Health Organization. From a number of these throat-washings, influenza virus type B was isolated, which was not related to the classical type B (Lee) strain, but which had some relationship to the more recently isolated strains of influenza B virus (1949-B-Sweden and 1953-B-Ottawa). The results of this investigation were reported to the W.H.O. Centres in London, England, and Geneva, Switzerland.

Specimens received from patients in an outbreak, thought to be poliomyelitis, in Fort Vermilion, Alta., early in 1954, yielded no poliomyelitis virus on repeated isolation attempts. They were also negative for Coxsackie viruses.

During the fiscal year 1954-1955, 16 specimens were submitted from various provincial laboratories for the isolation of Coxsackie and/or poliomyelitis viruses. All but one were negative; from it a Coxsackie group A virus was isolated.

During the year 783 samples of standardized viral antigens and antisera were distributed by the Virus Laboratories to the provincial health laboratories for the routine diagnosis of viral infections.

A total of 762 sera were received from the provincial departments of health, the Departments of National Defence, Veterans Affairs, and the Indian Health and Immigration Medical Services; 6,246 serological tests were carried out with these samples. A total of 222 specimens for the isolation of virus were received, and 2,231 serological tests were carried out with antigens prepared from these specimens.

Since October, 1954, a large proportion of the laboratory personnel has been engaged in the viral control of the poliomyelitis vaccine, produced by the Connaught Laboratories, Toronto, and to be used in a large scale vaccination program of Canadian children during the spring and summer of 1955. These governmental control procedures included safety tests on the vaccine in about 500 monkeys and in many other animals, as well as in numerous tissue cultures.

The new Virus Laboratories were occupied early in October, 1954, and were officially opened by the Minister of National Health and Welfare on December 16. Taking part in the ceremony were the Minister of Public Works, the Deputy Minister of National Health and Welfare (Health), and senior members of the Department. Also in December the new laboratories were visited by the directors of the provincial department of health laboratories, on the occasion of their annual meeting in Ottawa.

Since the occupation of the new Virus Laboratories, the diagnostic services available to the provinces have been extended to include poliomyelitis. The isolation and typing of virus strains is carried out in tissue cultures, using the standard trypsinised kidney cell technique.

Research is being conducted on the stabilization and purification of virus diagnostic antigens to increase their specificity and diagnostic value. A procedure was developed whereby stabilization of viral antigens was achieved by neutralization of the formalin present, and by addition of arginine before lyophilization of the products. The results of this work have been published in the February, 1955, issue of the Canadian Journal



of Microbiology. In the course of this study it became necessary to develop a colorimetric method for the determination of nitrogen suitable for the mass investigation of biological specimens varying widely in nitrogen content. A convenient method meeting these specifications was designed and was published in the September, 1954, issue of *Analytical Chemistry*.

Studies on the propagation of influenza and mumps viruses in tissue culture with chemically-defined culture media, carried on in collaboration with the biochemical research section have been concluded. Influenza and mumps virus appeared to propagate equally well in healthy, actively growing cells, or in cells depleted of intracellular nutrients and undergoing degeneration. This work was published in the December, 1954, issue of the *Canadian Journal of Microbiology*.

Research is being carried out on the preservation of cells at low temperatures, for subsequent use in tissue cultures. The development of a practicable complement fixation test for diagnostic purposes in poliomyelitis also constitutes a current research project.

### Clinical Laboratory Services

**Clinical Chemistry**—Work has continued on the Manual of Procedures in Clinical Chemistry. The finished sections have been reviewed by a committee formed by the Canadian Association of Pathologists, and their critical comments have been received and evaluated. Final copies of these sections have been prepared incorporating the various suggestions and recommendations and are being prepared for publication.

The study of methods for estimating blood constituents has been continued with particular attention being paid to the estimation of amylase, calcium, cholesterol, proteins, hemoglobin, iron,  $\text{CO}_2$  capacity, and acid and alkaline phosphatases in blood. Methods for the estimation of proteins in cerebrospinal fluid and urine have also been studied.

Further studies have been made on micro methods for determining many of the common blood constituents. These methods are being incorporated into the manual. A system of ultra-micro analysis for use in hospital laboratories has also been set up and studied. The following determinations can be made on very small amounts of blood: sugar, N.P.N., sodium, potassium, chloride, carbon dioxide combining capacity, proteins, pH, and packed cell volume. These micro methods proved useful in the treatment of several premature infants, full-term infants, and adults from whom only very small amounts of blood could be obtained.

Several instruments used for colorimetric and flame analysis have been examined and tested. Standard solutions have been sent to a number of hospitals, and others, submitted by hospitals and purchased from supply houses, have been analysed. The results of three evaluation studies of the accuracy of glucose estimations in hospitals in two provinces have been assembled and accepted for publication in the *Canadian Medical Association Journal*. Three laboratory supervisors from large hospitals have been trained in clinical chemistry methods.

Five large lots of human serum have been obtained, divided into small samples and frozen for use as controls in clinical chemistry determinations. A study has been carried out on the use of this control serum in hospital laboratories and its stability over the 12-month period has been tested.

A project carried out in collaboration with Dr. H. Schwarz of the Civil Service Health Division has been concluded. This study was concerned with an endocrine function of the thymus gland. Evidence has been obtained which indicates that the thymus gland produces a substance which has a definite effect on the calcium and phosphorus levels of the blood and which is antagonistic to the action of the parathyroid gland. This work will soon be published.

**Syphilis Serology**—This division serves as a national reference laboratory for syphilis serology. The preparation and standardization of antigens and the processing of complement for use in all provincial public health laboratories has been continued. During the year about 30 litres of Kahn antigens were distributed. The highly purified diagnostic reagent, cardiolipin antigen, is gradually being adopted. As a result there has been a marked increase in the quantities of V.D.R.L. and Kolmer cardiolipin antigens which have been requested. Thirty-four litres of dehydrated complement were sent to provincial laboratories during the year.

A seventh serological survey has been completed. Blood specimens from 66 syphilitic donors and 104 non-syphilitic donors have been sent to each of the provincial laboratories. The results are being compiled.

Studies on the substitution of synthetic compounds for naturally occurring cardiolipin and lecithin presently used in cardiolipin antigens have been continued in collaboration with Dr. Erich Baer of the Banting Institute. This year, the chief interest has been in an unsaturated dioleoyl lecithin synthesized for the first time by Dr. Baer. Another unsaturated lecithin extracted from yeast by Dr. Hanahan of the University of Washington has also been studied. The results of these investigations have been incorporated into two papers for publication.

A laboratory has been equipped for the performance of the *Treponema Pallidum* immobilization test, a highly technical confirmatory procedure in the diagnosis of syphilis. The test is at present being performed in two provincial laboratories, one of which (Ontario) provides a service to the remaining provinces. The Laboratory of Hygiene unit is now in a position to take a portion of this load. Moreover, it will be possible to aid other laboratories in the establishment of T.P.I. units. Certain aspects of the test are being investigated. In addition, the Laboratory is participating in a program being conducted by the World Health Organization to improve and standardize the T.P.I. test.

The senior officer of the division has continued to serve on two international committees: (a) Sub-Committee for the Development of Standard Serologic Methods of the American Public Health Association, (b) Expert Advisory Panel on Serology and Laboratory Aspects of the World Health Organization.

### Zoonosis Section

Prior to August, 1954, the zoonosis section operated as a branch laboratory at Kamloops, B.C., where it was established in 1939, in conjunction with a branch of the Division of Entomology, Department of Agriculture, primarily to conduct investigations on the incidence and other aspects of tick and insect borne diseases in Western Canada.

In August the branch laboratory was closed, the equipment shipped to Ottawa and the building turned over to the Department of Agriculture. Three members of the staff transferred to other departments, three were released from the service and two, the officer-in-charge and one assistant technician were transferred to Ottawa.

The services,—antigen production and special diagnostic services,—which were provided at Kamloops for the provincial public health laboratories and for the D.V.A. hospitals were resumed in the new section established, temporarily, in the new Virus Laboratories building. The plague, rickettsial, leptospiral and other disease investigations which had been initiated at the Kamloops laboratory are being continued insofar as facilities permit in the Ottawa laboratory.

The interruption in operations, due to transfer of the laboratory from Kamloops to Ottawa and the loss of experienced personnel, necessitated drastic curtailment of the investigational work being carried out this year. However, despite the transfer, slightly more than 5,000 specimens submitted by the health departments of Alberta and British

Columbia were examined for evidence of plague and Rocky Mountain spotted fever. No surveys were carried out in Saskatchewan during the year.

Some 3,300 millilitres of concentrated diagnostic *Brucella abortus* and *Pasteurella tularensis* antigens (sufficient to conduct 111,300 diagnostic tests) were supplied to provincial laboratories and to D.V.A. hospitals, and 79 special diagnostic tests, mostly for leptospirosis, were carried out for other laboratories. Studies on more efficient methods of preparing diagnostic antigens were continued.

This work continues to be hazardous, and despite every possible precaution against laboratory infections, this year another member of the staff became infected and suffered a fairly severe attack of tularemia.

A paper reporting the results of a study on *Spirillum minus* infections was submitted for publication in the Canadian Services Medical Journal and, on the request of the publication committee of the American Public Health Association, a section on *Pasteurella multocida* was written for the new (fourth) edition of the text book "Diagnostic Procedures and Reagents", about to be published by the American association.

### Administration

The Administration Section of the Laboratory provides all of the auxiliary services necessary for the operation of a scientific unit. These include: media and wash-up rooms, animal houses, general maintenance, work shops, stores, transport and the stenographic pool.

During the year the demands made upon this section were exceptionally heavy. The occupation of the new Virus Laboratories necessitated the purchase, recording and distribution of large amounts of equipment, materials and supplies. Items of equipment, such as animal cages, were fabricated in the Laboratory work-shop at a substantial saving in cost. The re-allocation of space in the old Laboratory of Hygiene building and the removal of the Zoonosis Section from Kamloops to Ottawa necessitated a number of minor structural changes, all of which were made by the Laboratory maintenance crew. The poliomyelitis vaccine control program necessitated the purchase and careful handling of more than 500 monkeys, which required special diets and protection from temperature extremes. Special arrangements had to be made to pick up and take care of poliomyelitis vaccine samples and supplies of monkeys immediately upon arrival regardless of the time of day or night.

During the year, the animal breeding colony in Hull produced 19,965 guinea pigs and 580 selectively bred rabbits. The test animal house in the main building produced more than 400 hamsters and handled 62,000 white mice.

### Technical Advisory Committee on Public Health Laboratory Services

This committee, established by Order-in-Council, P.C.857, May, 1947, to advise the Minister on all matters relating to public health laboratories, and particularly to co-ordinate the activities of the federal laboratory with those of the provincial public health laboratories, held its tenth annual meeting in Ottawa in December, 1954.

The special feature of this meeting was a symposium on the laboratory diagnosis of virus diseases in which a number of the outstanding virus experts in the country took part. It was made clear that practical, relatively simple techniques are now available for the diagnosis of many viral infections. Such diagnostic services should now be made available, and it was recommended that consideration be given to the establishing of suitable units for the diagnosis of these diseases, strategically (on a regional basis) throughout Canada.

Serodiagnostic tests for syphilis, the Coomb's test, ASO mass testing, parasitology, standard methods for the bacteriological examination of water and milk, technician



training, antibiotic sensitivity testing and enteric infections were some of the problems discussed. The need of a good haematology manual for hospital and public health laboratory technicians was stressed, and federal assistance for its preparation and publication was requested.

The Laboratory of Hygiene agreed to put on a special refresher training course in clinical chemistry at the request of six of the provincial representatives.

The significance of a positive T.B. culture when the sputum is negative on direct smear examination has been questioned, and the Committee went on record as being strongly opposed to any view depreciating the public health significance of the positive culture regardless of the result of direct smear examination.

The special sub-committee on laboratory costs presented a report on work evaluation and costs of laboratory work in the provincial laboratories during 1953. As a result of these studies carried on for the past three years, fairly reliable estimates of the cost of the different laboratory examinations are now available.

## INDIAN HEALTH SERVICES

It is not too difficult nowadays to plan and operate a health service for a typical North American city of 160,000 people. If, however, the education of its inhabitants happened to be well below average, if their traditions and outlook on life differed from those of the remainder of the country, and their level of prosperity was so low that only a handful could meet their medical expenses in full, the situation would become much more difficult. If, in addition, they were divided into more than 2,000 groups, some nomadic and many isolated, and scattered over 3,500,000 square miles of territory, the task of providing a health service for them would become enormous. That is the task with which Indian Health Services is faced.

The program being carried out by the Service has not been developed under statutory direction. The Indians have never been made wards of the Crown nor has the Crown assumed a legal obligation to provide an all-embracing health and treatment service for them. The existence of the Service is evidence of the recognition by the State of a moral, rather than a legal, responsibility towards a group whose economy would not otherwise permit them adequately to care for themselves. It has expanded in response to the urgent need of many groups for help. It functions primarily as a public health service, because of the conviction that in the application of these principles lies the best prospect of a steady improvement in the health of the Indian and the Eskimo, but it also provides or arranges for the active treatment of individuals who would otherwise be denied it. It is prepared to hand back these functions to the home, the local community and the province when these agencies exhibit the will and the resources to take them over.

At the latest published census in 1949 the Indian population of Canada was shown as 136,500 and the Eskimo 9,300. The death rate is somewhat higher than the average; in 1953 the crude rate for all Canada was 8.6 per thousand while the Indian rate was somewhat over 10. Their birthrate is much higher; in 1953 the Canadian rate was 28.2 while that of the Indian was almost 38. About 1,000 Indians apply each year for enfranchisement, thus assuming the full rights and full responsibilities of Canadian citizenship. The net result is an increase in the Indian population of about 1½% per annum so the population in 1954 may be estimated at 150,000. These factors also operate in the Eskimo group whose population is now approximately 9,600.

Finally, administration of all aspects of Indian Affairs other than health is the responsibility of the Department of Citizenship and Immigration while the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources plays the same role in relation to the Eskimo.



## Facilities and Staff

The country has been divided into five administrative regions with headquarters at Vancouver, Edmonton, Regina, Winnipeg and Ottawa. Each of these major units is further subdivided into zones and within each zone is a variable number of field installations. Facilities of one kind or another are maintained in all provinces and territories. When circumstances do not justify the operation of a separate unit, the native groups are cared for under arrangements with local agencies. In the more isolated districts where constant professional surveillance may be impossible to arrange, the system is rounded out by the help generously volunteered by scores of missionaries, teachers, traders and officers of all Government departments who supply simple drugs, provide such first-aid assistance as lies within their abilities and act as sentries who contact the nearest administrative centre at the first sign of emergency. Some of these people receive a small stipend; others give their services gratuitously; in all cases the work they are doing is motivated by an interest in and a desire to help their less fortunate neighbours.

The basic field unit within the Service is the Health Centre of which 61 were in operation during 1954. A typical centre of this type consists of a dwelling and an office and is staffed by a nurse. She provides medical attention within the limits of her resources, but her chief concern is with the planning and implementing of a public health program. She has to be active in many fields, but she tries to devote a good part of her time to home visiting, health education and preventive inoculations. Sometimes a few beds are added to this basic pattern, and provision is made for the admission of less serious cases such as maternity, childhood illness and minor accidents. The unit then becomes known as a Nursing Station and is usually staffed by a graduate nurse, a practical assistant and a fireman-labourer. One hundred and fifty-seven such beds were operated in 35 nursing stations during the year. Also in operation were 11 Clinics, staffed by one or two doctors and one or two graduate nurses. These are located in areas of high Indian population density and provide a combined health and treatment service. Usually the doctor is accorded privileges in the local hospitals. A similar doctor-nurse team was based on 14 of the 18 Departmental hospitals with the nurse carrying out the public health work under the supervision of the physician and the facilities of the hospital being used for the necessary follow-up and inpatient care. The functioning of this field-program during 1954 called for the full-time services of 39 medical officers and 106 graduate nurses. Their work was supplemented by a team of 11 dentists who practiced all types of dental surgery, sometimes under difficult conditions, but who attempted to concentrate on prophylactic care and dental health education in the youngest age-groups.

The 2,223 beds and bassinets in the 18 Departmental hospitals were fully occupied. Now and again, due to pressure of circumstances, they had to be used beyond the rated capacity. These institutions range in size from 20 to 500 beds, and had a professional establishment of 43 medical officers and 232 graduate nurses. The greatest number of admissions are still tuberculous, but a large amount of general medical and surgical care is provided, particularly in the small institutions.

The total number of full-time employees both in the hospitals and in the field providing this health and treatment service was 1,600. Amongst these were 193 Indians and Eskimos. To round out the program and to ensure that even the most remote bands should have access to professional help, it was found necessary to employ 63 part-time physicians and to receive occasional accounts from more than 1,200 doctors and over 120 dentists in all parts of the country. Indians and Eskimos were treated in more than 600 non-Departmental hospitals which accounted for more than one-half of the total patient days during the year. On April 1, 1954, the Indians in British Columbia were accepted into the B.C. Hospital Insurance Scheme which became subsidized by a provincial sales tax. Until that time the Department had paid all the necessary premiums.

Data on patients treated in hospital, whether Departmental or non-Departmental, are shown in Tables 10 and 11, following.

## Field Activities

The greatest problems facing the Directorate are racial rather than individual in scope, and many are peculiar to the Service. The depressed economic and educational level of most, the inadequate housing and poor nutritional status of many, the ignorance and superstition rife amongst some, all contribute to the high incidence of disease still found amongst the native peoples. Most striking at first glance is the relatively high rate of several communicable diseases, which may assume a severe form. Gastro-enteritis of infants, measles and pertussis are often followed in the young by a fatal pneumonia. Underlying these more striking differences and contributing to their prevalence is a widespread ignorance of the basic principles of sanitation. Most important of all, perhaps, and most difficult to treat, is the need these people have for help in spanning the cultural and educational gap that lies between them and full social integration.

Hence, the field campaign during 1954 was of necessity spread over many fronts. An intense immunization program was carried out in all areas using the triple diphtheria, pertussis and tetanus antigen. B. C. G. immunization was stressed, and an attempt was made to give this protection to every newborn Indian child. In those districts where the risk was judged to be high, T.A.B. courses were given. A complicating factor in many such campaigns was that several native groups could only be assembled at irregular intervals, and it was sometimes impossible to complete the course initiated on these occasions.

In all parts of the country heavy emphasis was laid on health education. For this to be effective it is essential that the field-nurse gain the confidence of those she is serving. Home visiting was given high priority, and in many areas first-aid and home-nursing classes were held. Wide use was made of the filmstrips which have been provided by the Directorate, supplemented by material borrowed from the National Film Board library. A poster-design competition was again held amongst the Indian children in British Columbia and prizes given to the successful entrants.

Two special projects were initiated in the field during the year. From a preliminary analysis of some records, the National Cancer Institute of Canada reported that the incidence of carcinoma of the cervix was unusually high in Indian women. In order that this observation might be confirmed and to ensure prompt investigation of suspect cases, a large proportion of field nurses were trained to take cervical smears, and machinery was set up to study the results.

Several immunological studies were planned in co-operation with the Laboratory of Hygiene, and some were commenced during 1954. The basic problem is to ascertain the natural immunological experience of the Indians by examination of specimens of blood from a representative sample of the population. Proceeding from this and other investigations an attempt will be made to produce an appropriate antigen mixture which gives the highest protection in the least number of injections. A start was also made on studying the protection afforded to the child by prenatal immunization of the mother.

## Tuberculosis

It is not so long since a discussion on the health of Indians was synonymous with a discussion of the tuberculosis situation. The problem still loomed large in 1954 but not to the overpowering extent it did some years earlier. Until 1951 it was the leading cause of death among the native people, but in 1952 it had dropped to second place and in 1953 to fourth. It is expected that, when the final 1954 figures are available, it will have suffered a further displacement.

The drop in the death-rate has been the most dramatic result of the efforts made by the Service over the past ten years. This is summarized in Table 12, appended.

This striking decrease in the number of deaths is very gratifying, but the drop in morbidity, although considerable, has not paralleled that in mortality. Enough new

active cases were found during the year to prove that the point has not yet been reached where a less aggressive case-finding program can be justified.

Field survey parties were active in every part of the country and a greater coverage was attained than in any previous year. Some new ground was broken, notably in the East where a survey of the Labrador coast was undertaken with the co-operation of the R.C.M.P. and the provincial government. An important development in all regions was the increased number of Eskimos examined.

The results of field survey activities undertaken in 1954 are summarized in Table 13, following. The figures given do not include the many thousands of x-rays taken in hospitals, those referred by outside agencies, or the examinations carried out on non-Indian persons. The total field-survey films taken—75,187—represented a satisfactory coverage and in some areas more than 80% of the population was examined.

### **Extension of Services and Facilities**

The eastern regional office was reorganized and strengthened, and a highly qualified and widely experienced medical officer was appointed as its superintendent. In all regions and at all levels the administrative machinery was examined and many improvements effected by the introduction of superior accounting, financial and procurement techniques. A regional administrative officer was appointed in British Columbia. The production of a manual on management methods for the guidance of administrative staff was undertaken in an attempt to consolidate the ground thus being gained.

There was no increase in the number of persons employed on public health work in 1954, but additional nursing positions were provided in Departmental hospitals to enable them to adjust to the amended work-week. The Directorate took over the full staffing of the Blood Indian Hospital at Cardston, Alberta, and the Blackfoot Indian Hospital at Gleichen, Alberta. In the first instance staffing had formerly been through arrangements made with the Sisters of Charity and in the latter it had been undertaken in conjunction with the Indian Band Council.

The new wing at Coqualeetza Hospital, Sardis, B.C., was completed and put into operation. This replaces the portion destroyed by fire in 1948, and its facilities made possible the development of a chest-surgical unit in the institution during the year. A new residence and health-centre was completed at Massett, B.C., and a new nursing station was put into operation at God's Lake, Man. Other new construction included two multiple dwellings for staff at Norway House, Man., doctors residences at Fort Simpson, N.W.T., and Miller Bay, B.C., a dispensary at Romaine, Que. and an erosion control project with new water intake system at Moose Factory, Ont. Most noteworthy of all, perhaps, was the construction of a new nursing station at Fort-à-la-Corne, Sask. Here, out of the total construction costs of \$41,000, the Indians themselves voluntarily contributed \$25,000.

### **Co-operation with Other Agencies**

Indian and Eskimo Health Services, operating as it does in even the most remote parts of the nation, must lean heavily on the goodwill of many other agencies. Without the co-operation which has been so willingly given by the provincial and territorial administrations, the Royal Canadian Mounted Police, the Royal Canadian Air Force, and a host of other organizations, both governmental and private, much of what has been accomplished would have remained undone. The assistance provided at all levels and in every phase of the program by the administrators of Indian Affairs in the Department of Citizenship and Immigration and the administrators of Eskimo affairs in the Department of Northern Affairs and National Resources is worthy of special mention. Many problems are shared with these branches, and many have been overcome through co-operative action.

TABLE 10  
(Indian Health Services)

## INDIANS

Movement of Patient Population in Departmental and Non-Departmental Hospitals during the Calendar Year, 1954\*.

Indian Population — 151,000.

—	General†	T.B.	Mental	Total
Admissions (Including Transfers).....	27,875	2,893	117	30,885
Admissions per 1,000 population.....	230.4	19.2	.8	250.4
Total Patient Days.....	376,388	978,285	116,156	1,470,829
Patient Days per Capita.....	3.1	6.5	.8	10.4
Discharges.....	26,382	2,327	56	28,765
Transfers Out.....	714	685	8	1,407
Deaths.....	349	56	8	413
Total Separations.....	27,445	3,068	72	30,585
Patient days of Separation.....	352,349	1,121,435	51,444	1,525,228
Average Stay of Separations.....	12.8	365.5	714.5	49.9

(†) Data for Indians under B.C.H.I.S. not included in General figures.  
Calculations in this column only based on Indian population of 121,000.

(\*) Excluding Newborn.

TABLE 11  
(Indian Health Services)

## ESKIMOS

Movement of Patient Population in Departmental and Non-Departmental Hospitals during the Calendar Year 1954(\*)

Eskimo Population — 9,600

—	General	T.B.	Mental	Total
Admissions (Including Transfers).....	832	420	4	1,256
Admissions per 1,000 Population.....	86.7	43.8	.4	130.8
Total Patient Days.....	29,483	144,185	3,216	176,884
Patient Days per Capita.....	3.1	15.0	.3	18.4
Discharges.....	736	283	3	1,022
Transfers Out.....	52	111	.....	163
Deaths.....	15	10	.....	25
Total Separations.....	803	404	3	1,210
Patient Days of Separation.....	22,505	131,385	264	154,154
Average Stay of Separations.....	28.0	325.2	88.0	127.4

(\*) Excluding Newborn.



TABLE 12  
(Indian Health Services)

INDIAN TUBERCULOSIS DEATH RATES, 1943-54

1943 — 662.6	1949 — 399.6
1944 — 605.0	1950 — 298.8
1945 — 565.7	1951 — 268.2
1946 — 579.1	1952 — 167.5
1947 — 549.8	1953 — 100
1948 — 488.5	1954 — 46.3 (preliminary)

TABLE 13  
(Indian Health Services)

INDIAN AND ESKIMO TUBERCULOSIS—1954  
(Some preliminary figures)

Region	Approximate Population	X-Rays taken Field Surveys	New Active cases (Field Survey)	Deaths
Eastern—Indian.....	50,000	9,479	223	9
—Eskimo.....	5,314	2,975	100	4
Manitoba—Indian.....	30,500	19,586	125	20
—Eskimo.....	1,896	917	20	4
Saskatchewan.....	18,000	14,280	54	9
Foothills—Indian.....	23,400	13,734	93	15
—Eskimo.....	2,397	1,318	11	3
Pacific.....	30,000	12,898	270	17
Indian.....	151,000	69,977	765	70
TOTAL—Eskimo.....	9,607	5,210	131	11 (A)
	160,607	75,187	896	81

(A) Approximate death rates—Indian..... 46.3 per 100,000  
 Eskimos..... 105 per 100,000  
 Combined.... 50 per 100,000.

## MEDICAL ADVISORY SERVICES

### CIVIL AVIATION MEDICINE DIVISION

This Division has continued to act in an advisory capacity to the Department of Transport, (Air Services Branch), other government departments, interested organizations and the public generally on the health, safety and comfort of aircrew, groundcrew and passengers by air. The Division has in particular acted as medical adviser to the Department of Transport, (Superintendent of Air Regulations and Controller of Telecommunications) in the medical requirements for civil aviation personnel.

The trial run for the decentralization of the procedure for the assessment of medical examination reports for aviation personnel, conducted in the Department of Transport's Toronto District office, proved to be of sufficient value that the Department of Transport requested this procedure be introduced in all six district offices as soon as possible. Accordingly, six part-time district medical officers were appointed at the following centres: Edmonton, Montreal, Moncton, Toronto, Vancouver, and Winnipeg.

District medical offices were opened during the months of May, June, July and August. The Department of Transport has provided accommodation and clerical staff in all of the offices except Toronto. Although there have been minor administrative details to work out with the Department of Transport, the pilot personnel, the commercial operators and the local flying clubs have expressed an appreciation of this system. It has also assisted the Department of Transport in the decentralization of the licensing procedure for aviation personnel.

The value of the Regional Medical Consultant Boards established in each of the Department of Transport District Offices has been further demonstrated by the assistance provided in the assessment of commercial and airline transport pilots with borderline and contentious medical conditions.

A revision of the "Department of Transport Provisional Physical Standards for Aviation Personnel" and the "Department of National Health and Welfare Handbook for Civil Aviation Medical Examiners" was started. These two publications are being combined and will be published as a "Manual for Civil Aviation Medical Examiners."

Co-operation with the Department of Transport, Department of National Defence, Royal Canadian Air Force Institute of Aviation Medicine and Defence Research Board (Defence Research Medical Laboratories) has continued and assistance has been given to the Department of Transport towards investigating problems of a medical nature or involving the assessment of the human factor in the administration of the air regulations.

Training in aviation medicine for the civil aviation medical examiners appointed by the Department of Transport has been confined to visits by the Chief to the district offices or to the offices of the medical examiners in areas where problems were more pronounced. Due to the time required to establish the district medical offices, a post-graduate course in aviation medicine was not conducted.

Observation and investigation has continued in the following subjects associated with aviation medicine: hearing loss among aviation personnel licensed to fly commercially by the Department of Transport; crash injury reporting; visual and colour perception requirements for private and commercial pilots; fatigue and hours of duty for commercial pilots and air traffic control personnel, and the air transportation of medical supplies or injured personnel related to civil defence. During the year, a Department of Transport Board of Enquiry requested the Division to convene a medical board to examine the air crew in the case of a serious but non-fatal accident.

Liaison with the Royal Canadian Air Force, the Air Cadet League of Canada and the Royal Canadian Flying Clubs Association was maintained to facilitate the medical assessment of applicants for the Royal Canadian Air Force Reserve Force Flying Training Program and the Royal Canadian Air Force Air Cadet Scholarship Flying Training Program. Liaison was established with the Canadian Army for assessing the medical reports of Army personnel trained in civil registered aircraft.

Liaison and discussion on civil aviation medical problems with the civil aviation divisions of other countries has increased.

Valuable assistance was given by the Royal Canadian Air Force Institute of Aviation Medicine in the assessment of special clinical cases associated with illnesses peculiar to flight. Instruction was also given to civil pilots and other air crew members on the medical aspects of flight at high altitudes.

### CIVIL SERVICE HEALTH DIVISION

The past year marked the eighth year of activity of the Civil Service Health Division. No major changes in policies or functions occurred. Clinical activities are still confined to the Ottawa area. There has, however, been further expansion of services locally. Nursing-counsellor service has been extended to a further 2,000 employees, and several additional groups of employees engaged in hazardous or specialized work are receiving clinical service from the Health Centre. At the close of the fiscal year the advisory and diagnostic services of the division were being extended to approximately 33,000 civil servants in the Ottawa area with health unit services being available to 24,500, or three-quarters of the total.

During the year permanent health unit quarters were completed in the Shirley Bay Central Services Building of the Defence Research Board, affording considerable improvement in facilities and location. In July a new health unit was opened in the Confederation Building designed to serve, also, employees in the Justice Building, Justice Annex, and the new Supreme Court Building. In August a health unit was established to serve employees of the Department of National Defence on Victoria Island. Late in February the health unit serving Veterans Affairs employees in the Daly Building was moved to the new Veterans Memorial Building. There are now in operation 21 health units, two of which afford half-time service to small isolated groups. Some extension has occurred in the visiting service to small groups of employees located too far from health units to participate fully in the program. These employees benefit from periodic part-time visits of nursing counsellors from established health units. A further eight units are envisaged for the future, two of which may initially operate on a part-time basis.

Staff education increases in importance as new health units become established and more widely scattered and as the program continues to develop to meet the ever-changing needs of government departments and agencies. Organized orientation and in-service training classes for nursing counsellors are provided by the Health Centre consultant and administrative staff combined with on-the-job supervision and consultation at the health units. A comprehensive "Nursing-Counsellor Manual", including standing orders, policies and procedures, was completed recently as a staff education project. This has been received most favourably as a guide for nurses in industry both within and without the Department. Two new pamphlets, "Your Health Service and How to Use It", and "The Nursing Counsellor Service", have been prepared. The former pamphlet was designed particularly for the employee; the latter primarily for recruitment and information purposes. A series of coloured slides depicting the activities of this division were completed during the year to serve as visual aids in the interpretation of this work and also for staff recruitment.

The division continues to extend its facilities to public health nursing schools and medical students for field-work training. Members of the professional staff are contrib-

uting regularly to short training courses in employee counselling arranged by the Civil Service Commission. The purpose of these courses is to acquaint and instruct selected individuals of personnel divisions of government departments in the fundamental principles of early recognition and detection of employee emotional disturbances, and to encourage their referral as necessary to the available staff of this division or to appropriate community resources. In this connection it is worthy of note that the psychiatrist, in addition to his functions as a clinical consultant, has made considerable progress in the development of a program for the prevention of mental illness and the promotion of better mental health in the civil service. He has given valuable guidance and direction to nursing counsellors in the handling of the wide variety of mental and emotional health problems encountered in their daily work. All health units have been visited regularly and cases presented for discussion and guidance. Personnel officers and supervisors have been encouraged to bring forward and talk over their problems. Small groups of nursing counsellors meet at the Health Centre for case discussions to learn something of the ideology, dynamics and prognosis of particular psychiatric entities. Relevant reprints and articles are circulated to each of the health units as reading and reference material for the nursing counsellor. Nursing counsellors are encouraged to attend lectures of a psychiatric nature held by various community agencies. These and other measures are having their desired effect: more cases of a psychiatric nature are being reported, and what is even more gratifying is the attempt to solve employee problems shortly after their origin, oftentimes bringing personnel officers into the picture. One important aspect in this field is the growing understanding by personnel officers and supervisors of a shared interest in problem drinking as it affects employees and the public service, fully utilizing community diagnostic, treatment and rehabilitation facilities.

The service is now sufficiently well established, and relationships with other divisions and other departments have developed to the point where certain fact-finding studies can be undertaken with mutual interest and good will. In co-operation with the Nutrition Division, health units are presently conducting a survey on the breakfast habits of employees. It has aroused considerable interest and affords an excellent teaching opportunity toward improving the general nutrition and efficiency of employees. The division has continued to work in close co-operation with the Quarantine, Immigration Medical and Sick Mariners Services and the Indian Health Services of this department in arranging for examinations and consultations required outside Ottawa. The co-operation of the Occupational Health Division and of the Public Health Engineering Division has also been very helpful in investigating and remedying working conditions and environmental problems in the public service. Similarly, the division has utilized to the full the out-patient clinical facilities of the Department of Veterans Affairs and has been successful in working out new mutually satisfactory financial arrangements for services rendered by that department.

During the last four months of the fiscal year, a study of upper respiratory disease representing the experience of all health units was conducted. The study was carried out with two main objectives: first, to study the relative incidence of upper respiratory disease observed in health units; second, to determine by a study of early symptoms of onset whether the common cold and influenza-like illnesses might exhibit characteristic symptom patterns. Following an analysis of the total 12,687 cases of upper respiratory disease reported to the health units during this four-month period, some general observations may be deduced. No consistent pattern of early symptoms for practical application peculiar to the common cold or influenza-like illness could be established. Early symptoms in these upper respiratory illnesses appear to be due to viral agents in some cases and to bacterial pathogens in others. Secondary infection occurs frequently altering the course of the original disease. The nature and intensity of response to an infecting organism showed wide individual variation which accounts for the absence of consistent symptom patterns. A more detailed report will be prepared following a closer study of the data collected.



## Health Unit Services

Table 14, following, presents a monthly summary of visits to the 21 health units operating in Ottawa, by sex, nature and classification of visit and disposal. A total of 168,414 employees reported to the health units, an increase of 7,400 over the previous year. This increase is largely accounted for by the opening of two units in the summer months. As in past years almost 75% of the over-all total were first visits for new disabilities, the remainder being repeat or follow-up visits for a condition previously reported. The seasonal fluctuation with respect to respiratory and digestive disorders, as well as the seasonal variation in the work load of the health units, is clearly demonstrated. An extremely high percentage, 97.5, of all employees visiting the health units were returned to work following assistance and advice received from the nursing counsellor. Only one of every 15 employees was referred to the Health Centre, family physician, hospital clinic or other community agency. Nursing counsellors are thus able to deal with more than 90% of the employees without further referral. The introduction of the 5-day week on a year round basis has continued to have a favourable influence on the use of sick leave. There is further evidence to suggest a reduction in sickness absenteeism, and personnel departments are encountering fewer cases of flagrant abuse.

The "Index" of Participation" expressed as the average monthly number of employee health unit visits per 100 personnel supervised, was 60 for the past fiscal year, compared to 68, 70, 65, and 61 for the previous four years. This index is a measure of the extent to which departments utilize the services afforded by the health units. The reduction in the index for the past two years coincides with the introduction of the 5-day week and is not an indication that health units are being utilized to a lesser degree.

Slightly more than 75% of all cases reporting to the health units are primarily for health reasons in which some specific complaint or organic disease is present. The remainder are for socio-economic or welfare problems, usually concerned with factors such as personal health and hygiene, nutrition and budgeting, family health, recreation, living accommodation or conditions arising from the severely handicapped. These problems require skillful handling, and a thorough knowledge of all community resources and facilities by the nursing counsellors is essential. It is here that her qualities as a health teacher and counsellor are utilized to the full.

## Health Centre Services

Table 15, appended, summarizes the work conducted at the Health Centre including the activities of the certificate review section. A total of 7,519 medical examinations, consultations, emergency treatments, and immunizations were performed during the fiscal year. Medical examinations at the Health Centre are conducted for a variety of reasons, chief among which are pre-employment examinations for specific employee groups, examinations conducted under the Public Service Superannuation Act, periodic examinations for personnel unduly exposed to hazardous occupations, personnel proceeding to service abroad or isolated duty, and, finally, departmental requests for examinations required to determine physical fitness or emotional suitability for employment. Additional medical examinations were undertaken for special groups such as pre-employment examinations for Canadian Arsenals Ltd., personnel proceeding abroad under the auspices of the Colombo Plan, and periodic examinations for personnel of the Industrial Health Laboratories engaged in especially hazardous duties. Finally, at the request of Atomic Energy of Canada, Ltd., Chalk River, complete health services were instituted for employees of the commercial products division at Tunney's Pasture, including both pre-employment and periodic examination for those engaged in radiation work.

The psychologist has continued to develop his program working very closely with the psychiatrist, the welfare supervisor and the nursing counsellors. He has conducted

in all some 593 psychological assessments, more than half of which were referred by nursing counsellors and conducted at the health units from which the referrals were made. The remainder were referred by personnel officers or Health Centre physicians.

The psychiatrist, in his capacity as clinical consultant, has held 313 consultations. A considerable portion of his time has been spent in the health units. The majority of consultations are referred by medical officers at the Health Centre, departmental personnel officers and nursing counsellors.

The division has continued to provide guidance in ophthalmological problems to individual employees and to government departments in which work demanding a high standard of visual efficiency is performed. The pre-employment assessment of visual fitness of candidates for such work has proven to be a valuable procedure in reducing the incidence of visual difficulties which arise among employees whose work entails excessive eye strain. The special training in ophthalmology obtained by one of the medical officers has been found most useful in carrying out this phase of the work.

The certificate review section functions as an integral part of the Health Centre, with medical officers giving medical supervision and direction on a monthly rotating basis. In all, 68,560 physicians certificates of disability for duty were reviewed and processed together with 9,399 physical examination record forms. All medical certificates of disability for duty received in this division, following review and interpretation, are passed to the Public Health Section of the Dominion Bureau of Statistics. All data on sickness absenteeism is coded and analyzed by the Bureau and forms the basis of an annual statistical report on "Illness In The Civil Service". In addition, 416 special physical examinations were arranged for employees located outside Ottawa, usually at the request of the employing department, utilizing the services of immigration medical officers of this department, Department of Veterans Affairs' or private physicians.

Table 16, following, summarizes retirements from the service on medical grounds, according to disability. Some 205 retirements occurred during the year, 151 of which (75%) occurred within the 50-60 year age group. Diseases of the circulatory system, the nervous system and of the bones and organs of movement continue, as in former years, to constitute the chief causes of separation.



TABLE 15  
(Civil Service Health Division)  
HEALTH CENTRE STATISTICS  
FISCAL YEAR 1954-55

NUMBER OF VISITS	
Total.....	7,519
First visit.....	3,680
Repeat visit.....	3,839
VISITS BY SEX	
Total.....	7,519
Male.....	5,025
Female.....	2,494
ANALYSIS OF VISITS	
Physical Examinations.....	2,970
Pre-employment, periodic, P.S.S. Act.....	671
Foreign Service, isolated duty, postings, etc.....	480
Referrals — voluntary, department, health unit, etc.....	1,819
Consultations, Interviews, etc.....	4,261
Psychological.....	593
Psychiatric.....	313
Special — eye, X-ray, immunization.....	3,355
Accidents.....	288
Industrial.....	39
Non-Industrial.....	249
IMMUNIZATIONS	
Total number of employees immunized.....	1,735
Total immunizations.....	2,517
Smallpox.....	637
T.A.B.T.....	635
T.A.B.....	415
Cholera.....	180
Typhus.....	85
Yellow Fever.....	341
Other.....	224
DISPOSAL	
Total.....	7,519
Returned to work.....	7,422
Sent home.....	97
REFERRED TO FAMILY PHYSICIAN.....	121
TOTAL LABORATORY PROCEDURES.....	4,978
X-RAY	
Total.....	5,528
Chest.....	1,931
Chest (photo-roentgen unit).....	2,916
Other.....	681



TABLE 16

(Civil Service Health Division)

## RETIREMENTS FROM SERVICE — ACCORDING TO DISABILITY

FISCAL YEAR 1954-1955

Male—153 Female—52 Total—205

Cause of Disability	Age Groups					Total
	Under 40	40-44	45-49	50-54	55-59	
Infective and Parasitic.....	1	1	1	0	2	5
Neoplasm.....	2	0	0	4	6	12
Allergic, endocrine system, etc....	0	0	0	3	5	8
Blood and Blood forming organ...	1	1	1	1	0	4
Mental, psychoneurotic, etc.....	9	5	7	5	7	33
Nervous system and sense organs...	4	2	2	3	8	19
Circulatory system.....	0	1	2	12	45	60
Respiratory.....	0	0	1	2	11	14
Digestive system.....	0	2	0	0	5	7
Genito-urinary system.....	0	0	0	3	2	5
Pregnancy, childbirth, etc.....	0	0	0	0	0	0
Skin and cellular tissue.....	0	1	1	0	1	3
Bones and organs of movement....	1	3	4	6	10	24
Congenital malformations.....	0	0	0	0	0	0
Symptoms, senility, etc.....	0	0	1	0	6	7
Accidents, poisonings, etc.....	0	0	0	1	3	4
Total all causes.....	18	16	20	40	111	205

### QUARANTINE, IMMIGRATION MEDICAL AND SICK MARINERS SERVICES

The Quarantine, Immigration Medical and Sick Mariners Services administer a number of Acts and statutory regulations dealing with the health aspects of international travel and immigration, the treatment of sick mariners and the diagnosis and treatment of leprosy. In addition, medical facilities and advice are made available to several Government Departments. For the Department of National Revenue bona fide public hospitals are certified for sales tax exemption. For the Department of Transport periodic and special examinations are carried out on marine, harbour and river pilots and special groups of employees destined to serve in remote areas.

#### QUARANTINE SERVICE

The Quarantine Service administers the Quarantine Act and regulations and the Leprosy Act. In addition, its facilities in various seaports and airports are utilized as local medical offices for this and other federal departments.

New quarantine regulations were proclaimed on December 8, 1954, the chief changes being: (a) the addition of a sixth major quarantinable disease—louse-borne relapsing fever; (b) changing the status of Seven Islands, Que., from an unorganized quarantine station without facilities to a quarantine substation of Quebec City, with inspection and other facilities such as radio pratique under control of a part-time medical officer working under the direction of the quarantine officer at Quebec City and

(c) bringing quarantine procedures into conformity with those approved by the World Health Organization.

The six major quarantinable diseases are: smallpox; plague; cholera; yellow fever; typhus and louse-borne relapsing fever. In its efforts to prevent the spread of these diseases from infected areas, Canada's role under the International Sanitary Regulations has been to require all travellers coming from beyond certain parts of North America to be immunized against smallpox. Canada also co-operates in international measures to prevent plague by control measures to prevent port to port migration of rats. For Canadians proposing to journey to areas of the world where yellow fever is prevalent, there are 16 centres across Canada at which, during the year, yellow fever vaccine was administered to 3,277 persons to whom valid international certificates of vaccination were issued free of charge. At the chief ports of entry on both east and west coasts, facilities are maintained to deal with persons and conveyances found to be infected with disease or infested with vermin. Facilities continue to be maintained for the examination and sterilization of goods or things arriving infected with any disease or infested with vermin.

The World Health Organization receives reports of outbreaks of quarantinable diseases from most countries of the free world. This information is summarized and transmitted to member states who may then apply any necessary and approved health measure.

Of major concern to Canada is smallpox which is a highly infectious disease to all susceptible individuals. Although most children in their school years have been immunized against smallpox, there have been few adequate programs of re-immunization except for international travellers, 675,000 of whom are vaccinated annually as a result of Canada's vaccination requirements. This reduces the hazard of smallpox being introduced to Canada, but, in the event of the disease being imported, an intensive effort toward vaccination and revaccination of the population would be necessary.

At present all persons entering Canada from any country other than the United States, Alaska, Greenland, Iceland, St. Pierre and Miquelon, Bermuda, Cuba, Jamaica, the Bahamas, Virgin Islands, Puerto Rico, Panama Canal Zone or the Hawaiian Islands, must furnish satisfactory evidence of immunity from smallpox by reason of, within the three years immediately preceding arrival, either having had the disease or having been vaccinated.

International control measures against plague, typhus and relapsing fever are directed chiefly against individuals and conveyances infested with vermin. All vessels are inspected regularly every six months, and appropriate measures are taken to exterminate any vermin found. Persons found to be carrying vermin in their hair or clothing may be deloused by appropriate methods. Persons suspected of being or having been infected may be isolated and treated.

The number of vessels, crew members, passengers and other persons inspected at organized quarantine stations is shown in Table 17, following. Local customs officers, in their capacity as quarantine officers at unorganized ports, reported the entry of an additional 662 vessels.

The number of vessels inspected for vermin and rodents and the results of the inspections are shown in Table 18. Out of the 880 vessels inspected, 576 came from plague infected ports.

The number of aircraft, crew members and passengers inspected is shown in Table 19, following.

Approximately 70,000 International Certificates of Inoculation and Vaccination were issued.

TABLE 17  
(Quarantine Service)

SHIPS BOARDED BY QUARANTINE OFFICERS, 1954-1955

The following table indicates the number of ships boarded during the fiscal year 1954-1955, also total personnel on board, divided into their respective groups.

STATION	Vessels Inspected	PERSONNEL INSPECTED					Port Totals
		Crews	Passengers	Stowaways	Others		
Halifax, N.S.....	664	76,292	129,859	11	2	206,164	
Saint John, N.B.....	332	16,482	3,578	1	7	20,068	
Quebec, Qué.....	1,618	100,875	110,901	18	4	211,798	
William Head, B.C.....	585	25,139	4,827	7	8	29,981	
Totals.....	3,199	218,788	249,165	37	21	468,011	

TABLE 18  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1954-1955

Port	Vessels inspected, fumigated and deratization certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total Vessels inspected	Rodents Recovered	
						Rats	Mice
Halifax, N.S.	8	48	86	.....	142	.....	.....
Sydney, N.S.	.....	9	.....	.....	9	.....	.....
Saint John, N.B.	3	21	12	.....	36	.....	.....
Quebec, Que.	.....	13	4	.....	17	.....	.....
Port Alfred, Que.	.....	35	.....	.....	35	.....	.....
Three Rivers, Que.	.....	3	.....	.....	3	.....	.....
Montreal, Que.	4	75	9	.....	92	24	2
Vancouver, B.C.	31	85	32	195	343	72	.....
Victoria, B.C.	1	25	.....	143	169	.....	.....
Port Alberni, B.C.	.....	3	.....	31	34	.....	.....
Totals.....	47	317	143	373	880	96	2



TABLE 19  
(Quarantine Service)  
INSPECTION OF AIRCRAFT SUBJECT TO QUARANTINE  
FISCAL YEAR 1954-1955

AIRPORT	No. of Aircraft	No. of Crew	No. of Passengers	Total Persons
Dorval, Que.....	1,161	9,855	43,124	52,979
Gander, Nfld.....	7,343	62,317	302,230	364,547
Goose Bay, Nfld.....	794	6,645	25,403	32,048
Malton, Ont.....	192	1,144	7,145	8,289
Moncton, N.B.....	77	708	2,986	3,694
Sea Island, B.C.....	529	3,272	16,090	19,362
Stephenville, Nfld.....	429	3,627	19,446	23,073
Sydney, N.S.....	287	2,534	10,894	13,428
Winnipeg, Man.....	38	423	631	1,054
TOTALS.....	10,850	90,525	427,949	518,474

TABLE 20  
LEPROSARIA ANNUAL CENSUS  
1954-1955

	Tracadie	Bentinck Island	
<i>Inpatients:</i>			
Remaining from last year.....	6	2	
Admitted during year.....	0	2*	
Died during the year.....	0	0	
Discharged during the year.....	1	0	
Remaining in hospital.....	5	4	
<i>Outpatients:</i>			
Arrested — cases discharged from hospital, continuing treatment at home under medical supervision...	3	4	
Total known cases in Canada.....	8	7	15
* 1 case and 1 contact.			

\* 1 case and 1 contact.

## Leprosy

Leprosaria are operated at Tracadie, N.B., and Bentinck Island, B.C.

Six patients were under treatment at Tracadie at the beginning of the year and five at the year's end, one patient having been discharged at home as arrested and non-

infectious. The facilities are in a modern wing of the Hotel-Dieu de St. Joseph Hospital designed so that patients may have the maximum amount of comfort and recreation. Twelve single rooms are available, and recreational facilities include a woodworking shop and outdoor activities on a tract of land bordering on the Gulf of St. Lawrence.

Four patients were treated at Bentinck Island, two having been in hospital at the beginning of the year and two being admitted during the year. A patient admitted during the year was of Canadian origin, and the source of his infection is unknown. The majority of patients admitted in recent years were infected outside of Canada. This institution is built on the cottage system and ambulatory patients care for their own cottages and may do their own cooking if they wish. Some have gardens and raise chickens. All patients are under the direct supervision of a graduate nurse and medical care is provided by medical officers of the nearby William Head Quarantine Station.

At both leprosaria full use is made of the sulfatrone drugs which are doing much to brighten the prognosis for persons suffering from this disease. These drugs, however, are toxic and, in the initial stage of the disease, hospital treatment is essential. After a period in hospital, if the infection can be controlled, patients are then allowed to go home to continue treatment under supervision of the local health authorities.

## IMMIGRATION MEDICAL SERVICE

The Immigration Medical Service carries out or directs the preliminary medical examination of immigrants abroad; the final medical examination of immigrants, visitors and persons in transit, following arrival in Canada; the observation, clinical investigation and treatment of those who are found to be ill on arrival and the treatment of indigent immigrants who take ill following arrival while en route to their destination in Canada or while being accommodated pending placement in employment. Medical, diagnostic and treatment facilities are also provided for all persons accommodated or detained in immigration halls across Canada.

Preliminary medical prescreening is now carried out in the United States, the British Isles, the British West Indies, the Dutch West Indies, Mexico and Central America, various countries of South America, Australia, New Zealand, South Africa, North Africa, Lebanon, Israel, Iraq, the Dutch East Indies, Japan, Korea, South-east Asia, Spain, Czechoslovakia, Yugoslavia, Roumania, Poland, Hungary and Bulgaria. Medical reports from these countries are assessed in Ottawa, and the results are transmitted to the Immigration Branch of the Department of Citizenship and Immigration so that persons who are likely to be rejected on arrival at a Canadian port can be advised not to come forward.

Examinations at many of the above places were carried out under the prescreen system for the first time during the year. In addition, regularly appointed roster doctors examine immigrants at Hong Kong, Karachi, New Delhi, Bombay and Calcutta.

Approximately 50 Canadian physicians were employed in Europe at offices located in the British Isles at London, Liverpool, Glasgow, Belfast and Dublin and in continental Europe at Paris, Brussels, The Hague, Copenhagen, Linz, Rome, Athens, Karlsruhe, Hamburg, Munich, Bremen, Hanover, Hanau and Berlin. Assisting the Canadian medical officers in Europe and working under their direction are roster doctors in the United Kingdom, Malta, Eire, Switzerland, Portugal, France, Norway, Sweden and Denmark.

The majority of immigrants now undergo complete medical examination before departure. This includes a chest x-ray and any specialized or laboratory examination that may be required. Final medical clearance is granted only after a final check following arrival in Canada.

Although fewer immigrants were examined during the year, examinations were conducted at an increased number of centres.

Examinations and consultations by Canadian medical officers overseas and in Canada are free. Roster doctors and physicians doing medical prescreening and taking x-rays charge a fee for their services.

Many healthy immigrants come from countries having a high level of tuberculosis infection and are more likely to develop tuberculosis than persons from countries with a low level of tuberculous infection. However, the medical screening of immigrants has been so effective that the morbidity rate for tuberculosis in immigrants is now approximating the various provincial rates in Canada. When arrested cases of pulmonary tuberculosis are admitted, provincial departments of health are advised of the name and address so that appropriate follow-up examinations may be carried out.

Medical facilities for the examination of passengers arriving by ship are located at the following ports: St. John's, Nfld., Sydney, N.S., Halifax, N.S., Saint John, N.B., Port Alfred, Que., Quebec City, Que., Montreal, Que., Toronto, Ont., Vancouver, B.C., and Victoria, B.C.

Medical facilities for the examination of passengers arriving by air are located at the following airports: Gander, Nfld., Stephenville, Nfld., Reserve, N.S., Moncton, N.B., Dorval, Que., Ottawa, Ont., Malton, Ont., Winnipeg, Man., and Vancouver, B.C.

Departmental hospitals for the treatment of immigrants are located at Halifax, N.S., Saint John, N.B. and Quebec City, Que. These hospitals are well equipped and provide up-to-date facilities for diagnosis, treatment and recreation for the patients.

Departmental x-ray facilities are available at London, Liverpool, Glasgow and Paris overseas and at Halifax, N.S., and Quebec, Que., in Canada.

Immigration Medical statistics will be found in the following tables.

TABLE 21  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES

FISCAL YEAR 1954-1955

CANADA:

Immigrants medically inspected on arrival at ocean and air ports.....	143,631
Non-immigrants medically inspected on arrival at ocean and air ports.....	29,822
Certified as "prohibited" under Immigration Act, Section 5, (a) and (b).....	66
Certified as physically defective, Section 5 (c).....	630

OVERSEAS—(United Kingdom, Continent of Europe and Orient)

Prospective emigrants medically examined.....	153,556
Certified as "prohibited" under Immigration Act, Sec. 5, (a), (b), (e) and (i)....	2,455
Certified as physically defective, Section 5 (c).....	14,127
Re-examinations.....	31,585
<i>United Kingdom:</i>	
Prospective emigrants medically examined.....	46,045
<i>Continent of Europe:</i>	
Prospective emigrants medically examined.....	103,445
<i>Orient:</i>	
Prospective emigrants medically examined.....	4,066

(Table 21 continued)

## DETAILS OF EXAMINATIONS

## EXAMINATIONS OVERSEAS:

	Examinations	Re-examinations
By Canadian Medical Officers in British Isles.....	39,985	8,418
By Roster Doctors in British Isles.....	6,060	1,312
By Canadian Medical Officers on the Continent.....	99,270	21,110
By Roster Doctors on the Continent.....	4,175	723
By Roster Doctors in the Orient.....	4,066	22
Total — 1954-1955.....	153,556	31,585
Total — 1953-1954.....	225,019	40,167
BRITISH ISLES:		
Belfast by Canadian Medical Officers.....	1,878	1,014
Glasgow by Canadian Medical Officers.....	7,141	2,351
Liverpool by Canadian Medical Officers.....	8,822	2,062
London by Canadian Medical Officers.....	22,144	2,991
Belfast area by Roster Doctors.....	73	4
Dublin area by Roster Doctors.....	971	311
Eire area by Roster Doctors.....	217	27
Glasgow area by Roster Doctors.....	777	199
Liverpool area by Roster Doctors.....	1,855	374
London area by Roster Doctors.....	2,167	397
CONTINENT:		
Athens by Canadian Medical Officers.....	3,492	340
Azores and Portugal by Canadian Medical Officers.....	1,700	0
Berlin by Canadian Medical Officers.....	4,258	1,078
Bremen by Canadian Medical Officers.....	2,753	436
Brussels by Canadian Medical Officers.....	2,872	1,025
Copenhagen by Canadian Medical Officers.....	1,644	251
Hamburg by Canadian Medical Officers.....	3,822	501
Hannover by Canadian Medical Officers.....	8,276	1,688
Hanau by Canadian Medical Officers.....	3,865	629
Karlsruhe by Canadian Medical Officers.....	8,552	1,855
Linz by Canadian Medical Officers.....	7,334	2,148
Munich by Canadian Medical Officers.....	3,441	683
Paris by Canadian Medical Officers.....	5,867	861
Rome by Canadian Medical Officers.....	29,742	7,305
The Hague by Canadian Medical Officers.....	11,652	2,310
Finland by Roster Doctors.....	686	123
Malta by Roster Doctors.....	395	221
Norway by Roster Doctors.....	1,079	108
Portugal by Roster Doctors.....	121	7
Sweden by Roster Doctors.....	716	185
Switzerland by Roster Doctors.....	1,178	79
ORIENT:		
China by Roster Doctors.....	3,594	.....
India by Roster Doctors.....	355	22
Pakistan by Roster Doctors.....	117	.....
Total:.....	153,556	31,585



(Table 21 continued)  
DETAILS OF EXAMINATIONS

EXAMINATIONS IN CANADA:			
		Immigrants	Non-Immigrants
Gander, Nfld.....	4,282		3,435
St. John's, Nfld.....	485		268
Halifax, N.S.....	37,259		1,469
Sydney, N.S.....	38		162
Saint John, N.B.....	1,747		354
Montreal, Que.....	2,124		800
Quebec, Que.....	61,271		9,565
Dorval, Que.....	6,597		7,658
Malton Airport, Ont.....	2,386		1,228
Toronto, Ont.....	1,233		
Fort Erie, Ont.....	6,958		692
Niagara Falls, Ont.....	5,314		675
Vancouver and Airport, B.C.....	2,964		1,539
Victoria, B.C.....	248		223
Others.....	10,725		1,754
Totals.....	143,631		29,822

TABLE 22  
(Immigration Medical Service)

## CASES PRESCREENED IN OTTAWA

Chest Films interpreted.....	12,540
Medicolegal problems considered.....	341
Medical cases reviewed.....	13,194
Total cases dealt with.....	13,535

TABLE 23  
(Immigration Medical Service)

CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT

	CANADA Ocean and Air Ports	BRITISH ISLES		CONTINENT OF EUROPE		ORIENT	TOTAL
		Examined by Can. M.O's.	Examined by Roster Drs.	Examined by Can. M.O's.	Examined by Roster Drs.		
Certified under:							
SS (a) Mental Diseases and Defects.....	18	112	15	233	12	2	392
SS (b) Chronic Infectious Diseases.....	48	400	62	1,327	36	182	2,055
SS (c) Physical Defects.....	630	3,505	580	8,795	424	193	14,127
SS (e) Prostitutes, etc.....				1			1
SS (i) Chronic Alcoholism.....		3		4			7
Total.....	696	4,020	657	10,360	472	377	16,582

## SICK MARINERS SERVICE

The Sick Mariners Service administers Part V of the Canada Shipping Act which provides for a levy of sick mariners dues on ships arriving in Canada and for free medical care and hospital treatment for their crews. This Act was originally drawn to prevent foreign seamen who were ill on arrival in Canada from becoming public charges in seaport cities and towns but was later extended to cover coastal and fishing vessels. The service was first operated by New Brunswick but became a federal responsibility in 1867.

Medical and surgical care, including hospitalization, consultants, special nurses and drugs, is provided for all conditions except permanent insanity for such period as is necessary up to one year. Modern sick mariners clinics care for outpatients at Sydney, Halifax, N.S.; Saint John, N.B.; Quebec, Montreal, Que., and Vancouver, B.C.

For a great many years the Sick Mariners Service has utilized the hospital facilities of the Department of Veterans Affairs at Saint John, N.B. During the year the arrangement was extended to a number of other ports on an experimental basis. The arrangement proved so satisfactory that sick mariners are now being admitted to Veterans Affairs hospitals in Halifax, Saint John, N.B., Quebec, Montreal, and Vancouver. In all, 141 hospitals have been authorized or appointed to treat sick mariners. The number of port physicians, consultants and specialists employed during the year was 697.

The majority of sick crew members on vessels paying sick mariners dues make full use of the free treatment facilities. During the fiscal year 1954-55 the sick mariners dues collected amounted to \$309,921.83. The total cost of treatment amounted to \$801,720.26. A total number of 37,798 seamen received treatment for 47,142 diseases or injuries. Of this number 3,501 seamen required admission to hospital. The total number of crew members on vessels paying sick mariners dues was 114,123. Under treatment from this group were 121 cases of pulmonary tuberculosis, an unadjusted rate of 106 per 100,000 persons.

Tables relating to this Service follow.

TABLE 24

(Sick Mariners Service)

## CLASSIFICATION OF DISEASES AND INJURIES TREATED

DISEASE	CASES TREATED
Tuberculosis of respiratory system.....	121
Syphilis and its sequelae.....	2,556
Gonococcal infection.....	1,319
Dysentery, all forms.....	15
Other infective diseases commonly arising in intestinal tract.....	146
Typhus and other rickettsial diseases.....	1
Malaria.....	1
All other diseases classified as infective and parasitic.....	151
Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues.....	54
Benign neoplasms and neoplasms of unspecified nature.....	223
Allergic disorders.....	876
Diseases of thyroid gland.....	210
Diabetes mellitus.....	7
Avitaminosis and other deficiency states.....	29
Anaemias.....	1,215
Psychoneuroses and psychoses.....	899
Vascular lesions affecting central nervous system.....	907
Diseases of eye.....	626
Diseases of ear and mastoid process.....	991
Rheumatic fever.....	85
Chronic rheumatic heart disease.....	131
Arteriosclerotic and degenerative heart disease.....	97
Hypertensive disease.....	404
Diseases of veins.....	723
Acute nasopharyngitis (Common cold).....	3,915
Acute pharyngitis and tonsillitis, and hypertrophy of tonsils and adenoids.....	1,716
Influenza.....	2,793
Pneumonia.....	664
Bronchitis.....	2,480
All other respiratory diseases.....	1,966
Diseases of stomach and duodenum, except cancer.....	3,147
Appendicitis.....	441
Hernia of abdominal cavity.....	643
Diarrhoea and enteritis.....	698
Diseases of gallbladder and bile ducts.....	1,020
Other diseases of digestive system.....	4,399
Nephritis and nephrosis.....	516
Diseases of genital organs (male).....	828
Boil, abscess, cellulitis and other skin infections.....	2,003
Other diseases of skin.....	1,835
Arthritis and rheumatism, except rheumatic fever.....	1,483
Diseases of bones and other organs of movement.....	999
Other specified and ill-defined diseases.....	217
Accidents, poisonings, and violence (external cause).....	91
Occupational accidents and occupational poisonings.....	2,021
Accidents and poisonings not specified as occupational.....	1,480
	47,142



TABLE 25  
(Sick Mariners Service)  
Revenue, Expenditure and Deficit Classified  
According to Type of Vessel  
CALENDAR YEAR 1954

Classification of Vessel	Revenue		Expenditure		Deficit		Deficit Expressed as Percentage of Revenue
	\$	c.	\$	c.	\$	c.	%
Foreign-going.....	233,936.18		384,024.00		90,087.82		31
Coasting.....	3,370.64		24,051.61		20,680.97		614
Fishing.....	10,718.99		307,860.58		297,141.59		2772
Government.....	1,896.02		84,982.35		83,086.33		4382
Additional expenditure not classified as to type of vessel.....					801.72		.....
Totals.....	309,921.83		801,720.26		491,798.43		159

# WELFARE BRANCH

## Introduction

A new social security program was added to those administered by the Welfare Branch with the coming into force of the Disabled Persons Act on January 1, 1955. The other programs remained the same, namely, family allowances, old age security, old age assistance, and blind persons allowances. The Speech from the Throne announced the government's intention of amending the Blind Persons Act to lower the age limit and to raise the income ceilings.

The Disabled Persons Act was assented to on June 26, 1954. In September, 1954, the federal and provincial authorities held a meeting to discuss regulations under the Act. The Old Age Assistance Division is responsible for the federal administration of the disability allowances, except for the medical part of the plan. All provinces have entered into agreements under this Act, eight effective from January 1, 1955, and two from April 1, 1955.

There was a small increase in the number of recipients of old age assistance, and a slight decrease in the number of recipients of blind persons allowances.

The number of beneficiaries of family allowances and old age security increased once more. Family allowances had the highest increase in the number of accounts since 1949. Improved school attendance was also reported. An increasing number of direct payments are being made to Indian and Eskimo recipients.

The National Physical Fitness Act was repealed on June 15, 1954. As a result of this, the National Council on Physical Fitness no longer exists and the financial aid to the provinces under this program is discontinued. The provinces having agreements with the federal government continued to receive financial assistance until the expiry of their agreements on March 31, 1955. The remaining members of the staff of the Physical Fitness Division became part of the Welfare Branch Administration.

Applications of welfare organizations for incorporation under the federal Companies Act were examined by the Welfare Branch at the request of the Secretary of State.

The Excise Tax Act was amended in 1950 to provide for the exemption from sales tax of public institutions devoted to the care of children, the infirm, and the aged, if the institutions are certified by the Minister of National Health and Welfare as meeting the requirements of the Act. Seventeen institutions were certified during the fiscal year. This brings the total of institutions certified to 386. Starting with the month of December, biennial questionnaires were sent to 55 institutions and, on the basis of information received, it was necessary to cancel the certification of two institutions.

Research continued in welfare and social security. Substantial progress was made in a series of studies of provincial legislation affecting families and children, including desertion, adoption, and neglected and dependent children. The development of services for older people in Canada and abroad was also under review, with particular attention to housing and institutional care, employment and retirement, and social services. Studies released during the year included *Changes and Developments in Child Welfare Services in Canada 1949-53*, *Mothers' Allowances Legislation in Canada* and *Survey of Welfare Positions, Report*.

Representation on certain interdepartmental committees was provided by the Welfare Branch Administration. These included the Civil Defence Policy Committee; the Interdepartmental Advisory Committee on Immigration, and its Subcommittee on Migration Policy; the Interdepartmental Committee on Social Security; the Interdepartmental Committee on Unemployment Questions; the Interdepartmental Committee on the Federal-Provincial Conference; the Interdepartmental Committee on Television; the Suggestion Award Board; the Interdepartmental Group on Technical Assistance.

Members of the Department were active in various capacities in the International Conference of Social Work, which was held in Toronto, June 27 to July 2, 1954.

The Welfare Branch was requested to make arrangements for the selection of candidates for the Queen Elizabeth Scholarships offered in Canada by the Nursery Training School of Boston.

The Welfare Branch continued to arrange programs for those awarded social welfare fellowships and scholarships by the United Nations for study in Canada. Fellowship holders were received from the following countries: Egypt, France, Israel. Scholarship holders came from the following countries: Bolivia, Burma, China (Taiwan) (2), India and Pakistan.

The Executive Assistant to the Deputy Minister of Welfare, Mrs. D. B. Sinclair, was the Canadian representative to the United Nations Children's Fund (UNICEF). She attended meetings of the Program Committee and of the Executive Board held in New York in September, 1954, and March, 1955. She accompanied the Program Committee on an official trip to Central America in May, 1954.

The main Welfare Branch expenditures were:

	<u>Administration</u>	<u>Net Benefits</u>
Welfare Branch .....	\$ 32,257.65	\$
Family Allowances) .....	2,519,694.83	366,465,964.95
Old Age Security ) .....		353,205,333.42
Old Age Assistance ) .....	97,843.05	20,869,126.09
Blind Persons Allowance) .....		2,886,184.15
Physical Fitness .....	45,250.49	236,650.62
Totals .....	<u>\$2,695,046.02</u>	<u>\$743,663,259.23</u>

## FAMILY ALLOWANCES AND OLD AGE SECURITY

Once more, during the year ended March 31, 1955, there was a considerable increase in the numbers of both Family Allowances and Old Age Security accounts maintained by this Division. The developments which occurred during the year were those brought about by this increase and by the implementation of new and revised procedures designed to add to the efficiency of the operations carried on in all Regional Offices.

The number of active Family Allowances accounts, which was 2,131,329 at March 31, 1954, grew to 2,208,235 at March 31, 1955, an increase of 76,906. This increase, which appears to be directly related to the particularly high birth-rate, was the largest to occur in one year since 1949-50. In that year a large increase took place because of registration for allowances of Newfoundland children, after the entry of Newfoundland into Confederation. The number of active Old Age Security accounts was 752,438, at

March 31, 1955, an increase of 29,962 over the number at March 31, 1954, which was 722,476. The combined increase in Family Allowances and Old Age Security accounts totalled 106,868.

One of the results of the continuing expansion in the work of all Regional Offices has been an acute problem regarding space for the maintenance of the necessary records. The Division has had for some time authority to destroy "dead" files when a certain time has elapsed after their cancellation. Records of active accounts, however, make the problem of storage a critical one, especially in certain Regional Offices. It was decided, therefore, to request authority for the destruction of specified material considered non-essential to the efficient operation of the two programs. This authority was granted by Treasury Board on March 11, 1955. While the "stripping" operation will be time-consuming, it is expected that the saving in space will more than justify the work involved. Even with these procedures in effect, however, some Regional Offices, particularly the one at Toronto, will still be critically short of working space.

In the course of the year, the Manual of Family Allowances Directives was completely revised and a new manual issued, consolidating administrative policy and procedures adopted over the years during which the Family Allowances program has been in operation.

By Order-in-Council P.C. 1955-456 dated March 30, 1955, certain amendments were made to the Family Allowances Regulations. One of the amendments, which was made on the recommendation of the Indian Affairs Branch, provides for a change in the handling of applications for Family Allowances made by parents who are members of certain Indian Bands. In effect, it places these parents in exactly the same position, insofar as Family Allowances are concerned, as other Canadian parents. Formerly, Indian Superintendents had handled these matters for all Indian parents. It is highly probable that, gradually, more and more Indian parents will be included among those to whom the recent amendment refers. Other amendments made to the Family Allowances Regulations were comparatively minor in character.

### **Staff and Accommodation**

There was one change in Regional Directors during the year under review. Mr. J. J. McGurran, who had been Regional Director of Family Allowances and Old Age Security for the province of Saskatchewan, and who had been appointed at the inception of the Family Allowances program, retired on August 31, 1954. As the result of a promotional competition, Mr. G. P. Allen was appointed to replace Mr. McGurran on October 1, 1954. Mr. Allen had previously served as Supervisor of Welfare Services in the Saskatchewan office, and in the same capacity in the Nova Scotia office.

At March 31, 1955, there were 836 permanent and temporary employees on the staff of the Division. The turn-over in staff during the year was somewhat less than in previous years.

Staff shortages in Welfare Sections have caused some concern. At the end of the year the Division had need of two senior social workers and four junior social workers. There were, therefore, six vacancies out of a total of twenty-six positions in these sections. It is hoped these positions can be filled at an early date, in order that the duties performed by these sections may continue to be carried out efficiently.

Only one change in locations of Regional Offices occurred. The Family Allowances and Old Age Security office in Winnipeg moved to larger premises, thus relieving congested conditions.



## Costs of Administration

The following is a comparison between the costs of administering the Family Allowances and Old Age Security programs in the fiscal years 1953-54 and 1954-55:

	Dept. of National Health & Welfare	Dept. of Finance (Treasury)	Dept. of Public Works	Total
1953-54	\$2,400,230.00	\$3,110,053.00	\$212,200.00	\$5,722,483.00
1954-55	\$2,519,694.83	\$3,589,436.66	\$217,296.29	\$6,326,427.78

The rise in the past year of the costs of administration reflects the rise in costs of many goods and services. In this connection, the Treasury expenditure for postage was \$1,679,983, an increase of \$393,654, largely due to higher postage rates.

## Welfare Services

The year just ended was an active one for the Welfare Sections in Regional Offices. The work-load handled increased approximately 20 per cent over that of the previous fiscal year. Some 5,426 more cases flowed through the Welfare Sections; 761 more home visits were made by social workers of the Division; 205 more institutional visits were carried out. The increase in the volume of work was caused by a number of factors. The Welfare Sections have now completely taken over a share of the work in Old Age Security. This is mainly with regard to the appointing of trustees and the obtaining of reports from those trustees. Better interpretation to the staffs of other sections of welfare problems, in both Family Allowances and Old Age Security, has had the effect of increasing the number of referrals to the Welfare Sections. A greater stress on the need for home visits and visits to institutions has increased the number of such visits.

The only new work undertaken by the personnel of Welfare Sections during the year was in connection with the collection from Old Age Security payments of over-payments of Old Age Assistance. Regional Directors have used their senior welfare staff to assist in fixing the monthly amounts to be recovered. The social workers were also used to review cases of this type where the proposed stoppage or reduction of the pension would cause hardship to the pensioner. These cases were reviewed and appropriate recommendations made with regard to the spreading out of the collection.

## FAMILY ALLOWANCES

### General

The following table shows an increase in the numbers of families and children benefiting from Family Allowances in March, 1955, as compared to the numbers in March, 1954.

	No. of Families	No. of Children	Expenditures
March, 1955	2,195,027	5,169,042	\$31,179,567
March, 1954	2,116,709	4,942,044	29,812,438
Increase	78,318	226,998	\$ 1,367,129

Total net payments for the fiscal year 1954-55 were \$366,465,964 an increase of \$16,352,062 over the preceding fiscal year. Tables 26 and 27 appended hereto give additional details regarding payments of allowances.

## Overpayments

Overpayments outstanding at the end of the year 1954-55 totalled \$294,164.45. At the end of the previous year, the total was \$324,336.54. Thus, there was a decrease of \$30,172.09. Of this decrease, \$24,744.54 in uncollectable overpayments were deleted by authority of Order-in-Council P.C. 1955-29/313 dated March 4, 1955. It will be seen that there was, when the portion deleted by Order-in-Council is accounted for, a net decrease of \$5,427.55. This is in line with the continual lessening of outstanding overpayments as each year passes, despite the hundreds of millions of dollars paid in Family Allowances each year. Table 28 appended hereto gives a break-down by categories of the outstanding overpayments at March 31, 1955.

## Indians

There were 20,783 active Indian Family Allowances accounts maintained in Regional Offices at the end of March, 1955. This was an increase of 477 over the previous fiscal year. The effects of the amendment to the Family Allowances Regulations already mentioned will become apparent during the year 1955-56. It is understood that the Indian Affairs Branch is anxious to have those Indians who are considered capable of doing so handle such matters entirely on their own, though of course Indian Superintendents will be of assistance where necessary. This Division is in full accord with the aims of the Indian Affairs Branch in this regard. The accounts affected will no longer be listed among other Indian accounts, but will be included among the accounts of the general population. Indian parents concerned will be responsible for submitting registration forms directly to Regional Directors and for notifying the latter of all occurrences which affect the children's or the parents' eligibility for allowances.

## Eskimos

At the end of March, 1954, there were approximately 150 Eskimo families receiving payment of allowances by cheque, out of a total of 1652 active accounts. At March 31, 1955, there were 1680 active Eskimo accounts, and the number being paid by cheque rather than in kind remained about the same. All of these cheques have been mailed in care of the R.C.M. Police. It was recently decided, however, in consultation with officials of the Department of Northern Affairs and National Resources and the R.C.M. Police, that these cheques should be mailed directly to the recipients. Another decision made recently, and one which is somewhat unusual, was that in a few cases only, the fathers of families should be made the beneficiaries of the allowances rather than the mothers. These are cases where the families concerned have requested the change, through the R.C.M. Police, because of the long distance which they have to travel to the nearest settlement where they receive the cheques and cash them, and where often it is not possible for a wife to accompany her husband on these trips.

## School Attendance and Employment

The past year again saw a decrease in the number of children who lost allowances for one month or more because of non-permitted absences from school. In the year 1953-54, a total of 8,993 children lost allowances for this cause. In 1954-55, there were 8,660 such cases. It seems reasonable to conclude that attendance at school is improving steadily, when it is considered that the school population of Canada is increasing continuously, and that, generally, reporting by school authorities of cases of unsatisfactory attendance improves from year to year.

In this connection, the following is a quotation from the report of a School Supervisor contained in the annual report of the Department of Education of one of the provinces:

"The problem of poor attendance in the province was almost wholly eliminated by family allowance payments. On the whole, I think we should be well satisfied that

so far the Family Allowances Act has functioned fairly well, resulting in better economic conditions in our homes, and the raising of the standard of living conditions in the province. The children today are well fed and well clothed and there seems to be a general improvement in their health and their outlook on things in general. This has resulted in increased interest in school work and more progress in education."

## OLD AGE SECURITY

### General

The number of pensioners who received payment of Old Age Security pensions in March, 1955, was 745,620, an increase of 29,221 over the number receiving pensions in March, 1954. Total net payments for March, 1955, were \$29,760,404, an increase of \$1,152,946 over the net payment for March, 1954. Total net payments for the fiscal year 1954-55 were \$353,205,333. Table 29 appended hereto gives more detailed statistics on payments of Old Age Security pensions.

### Proof of Age

As had been anticipated, the problems related to proof of age for applicants for Old Age Security pension appear to have lessened. There are two categories of items of evidence of age, known as Class A and Class B. Class A evidence for Old Age Security purposes consists of birth or baptismal certificates which meet certain standards. In the case of a birth certificate, it must be issued by the official registrar of births for the province of birth, or, in the case of foreign-born persons, by the appropriate authority. In addition, it must refer to a birth which was registered within five years from the date of birth or, in the case of delayed registrations, to a birth registered in accordance with certain standards of birth registration. With regard to a baptismal certificate, it must, in order to be considered as Class A evidence, be signed by a responsible officer of the church. In addition, it must refer to a baptism which took place within five years from the date of birth.

Birth or baptismal certificates which do not meet the standards mentioned, and all other items of evidence of age which are acceptable, are considered as Class B evidence.

For purposes of establishing age for Old Age Security purposes, one item of Class A evidence or two items of Class B evidence are required. A study was made before the end of the fiscal year to determine the percentage of applications approved on the basis of Class A and Class B evidence of age, and, in the case of the latter, the frequency of the various Class B items accepted to prove age. The study showed that in 79.2% of applications approved, Class A evidence of age was obtained. The remaining 20.8% were approved on the basis of Class B evidence. Table 30 appended hereto shows the frequency of the various items of Class B evidence accepted in the cases where applications were approved on the basis of Class B evidence.

In a relatively small number of cases, it was not possible to obtain satisfactory proof of age, and Regional Directors had recourse to tribunals, as provided for in the Old Age Security legislation. A total of 445 tribunals were held during 1954-55, as against 767 in the year 1953-54. In 304 cases among the 445 considered by tribunals, the results were favourable to the applicants. In the balance, 141, the results were unfavourable to the applicants, the tribunal members finding them younger than claimed, or being unable to reach a decision.

### Administration of Pensions

The policy of giving exceedingly careful appraisal to cases where requests are received to have an Old Age Security pension diverted from the pensioner and paid to an administrator was emphasized strongly throughout the past year. In addition, periodic review of existing cases where administration had been approved was undertaken. The Old Age Security legislation authorizes the Director to pay a pension to a trustee in cases where he is satisfied that a pensioner, because of infirmity, illness, insanity or other cause, is incapable of managing his own affairs. This authority is used in a very limited number of cases. In March, 1954, the percentage of cases under administration was 2 per cent of all accounts. As a result of the emphasis on the policy mentioned, and the review of existing cases, it was possible, during the past year, to effect a slight further reduction in the percentage.

The year under review was one of satisfactory expansion and achievement in the administration of Family Allowances and Old Age Security pensions. This was due in large measure to the splendid co-operation of the members of the staff of this Division and that of the Chief Treasury Officer and his staff.



TABLE 26  
(Family Allowances and Old Age Security)  
COMPARATIVE STATEMENT OF FAMILY ALLOWANCES PAYMENTS BETWEEN MONTH OF  
MARCH 1954 AND MONTH OF MARCH 1955

PROVINCE	Month of March 1954					Month of March 1955				
	Families Receiving		Children Receiving		Amount Paid	Families Receiving		Children Receiving		Amount Paid
	Number	Average Allowance per Family	Number	Average Allowance per Child		Number	Average Allowance per Family	Number	Average Allowance per Child	
					\$					c.
Newfoundland.....	55,102	17.70	163,292	5.97	975,386	56,692	17.91	169,760	5.98	1,015,309
Prince Edward Island.....	13,205	16.22	35,441	6.04	214,221	13,142	16.54	35,812	6.07	217,348
Nova Scotia.....	95,715	14.73	233,076	6.05	1,410,117	97,478	14.84	238,896	6.05	1,446,635
New Brunswick.....	75,189	16.50	205,785	6.03	1,240,494	76,229	16.68	210,640	6.03	1,271,421
Quebec.....	585,050	16.20	1,562,685	6.06	9,478,872	605,916	16.27	1,624,055	6.07	9,860,313
Ontario.....	712,592	12.54	1,489,030	6.00	8,936,792	744,736	12.68	1,574,703	6.00	9,446,468
Manitoba.....	116,238	13.11	253,803	6.00	1,523,682	119,594	13.26	264,274	6.00	1,586,168
Saskatchewan.....	123,753	13.80	281,344	6.07	1,707,600	126,424	13.92	290,359	6.06	1,760,280
Alberta.....	154,258	13.24	339,803	6.01	2,042,951	161,737	13.39	361,551	5.99	2,166,135
British Columbia.....	181,241	12.26	367,834	6.04	2,221,465	188,471	12.45	388,442	6.04	2,346,398
Northwest Territories and Yukon.....	4,366	13.94	9,951	6.11	60,858	4,608	13.69	10,550	5.98	63,092
NATIONAL.....	2,116,709	14.08	4,942,044	6.03	29,812,438	2,195,027	14.20	5,169,042	6.03	31,179,567

TABLE 27  
(Family Allowances and Old Age Security)  
NET FAMILY ALLOWANCES PAYMENTS—COMPARISON BY FISCAL YEARS

PROVINCE	1946-1947		1947-1948		1948-1949		1949-1950		1950-1951	
	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
Newfoundland.....	2,192,044.00		2,256,477.00		2,295,286.00		9,747,080.00		10,224,103.00	
Prince Edward Island.....	13,358,417.07		14,207,957.82		14,515,131.00		2,411,291.00		2,467,257.00	
Nova Scotia.....	11,394,426.02		12,086,891.93		12,462,093.00		15,291,614.07		15,660,003.27	
New Brunswick.....	82,389,966.72		87,157,243.46		89,304,108.45		13,375,434.33		13,708,198.00	
Quebec.....	70,325,914.70		77,328,534.50		80,151,249.69		95,901,763.15		99,558,247.04	
Ontario.....	14,007,061.21		14,798,436.82		15,016,277.72		84,940,808.63		89,034,870.53	
Manitoba.....	18,119,791.87		18,561,329.55		18,527,408.22		15,668,695.50		16,235,519.56	
Saskatchewan.....	17,159,488.00		18,181,662.50		18,695,325.00		18,953,599.79		19,237,070.80	
Alberta.....	15,722,045.50		18,012,188.75		19,347,836.58		19,822,386.97		20,762,273.29	
British Columbia.....	471,376.50		574,470.00		595,063.00		20,813,661.00		21,952,569.36	
Yukon and N.W.T.....							587,749.50		625,348.67	
NATIONAL.....	245,140,531.59		263,165,192.33		270,909,778.66		297,514,033.94		309,465,460.52	

—	1951-1952	1952-1953	1953-1954	1954-1955
	\$	\$	\$	\$
Newfoundland.....	10,613,908.00	11,038,874.49	11,497,719.33	11,967,775.00
Prince Edward Island.....	2,495,987.00	2,522,830.00	2,558,097.00	2,590,704.00
Nova Scotia.....	15,949,540.73	16,297,169.95	16,716,374.00	17,147,920.00
New Brunswick.....	13,892,907.00	14,287,535.05	14,700,819.00	15,073,324.00
Quebec.....	102,883,811.56	107,084,124.36	111,441,301.49	116,057,182.00
Ontario.....	93,207,144.30	98,303,868.20	104,409,819.41	110,492,480.00
Manitoba.....	16,703,466.69	17,283,659.61	17,979,853.88	18,705,349.00
Saskatchewan.....	19,424,561.76	19,723,352.42	20,244,540.00	20,894,790.00
Alberta.....	21,573,429.99	22,575,583.60	23,958,080.50	25,390,585.00
British Columbia.....	23,063,642.85	24,399,858.81	25,904,496.28	27,405,872.00
Yukon and N.W.T.....	649,273.15	680,828.30	702,801.30	739,983.00
NATIONAL.....	320,457,673.03	334,197,684.79	350,113,902.19	366,465,964.00

TABLE 28  
(Family Allowances and Old Age Security)  
OVERPAYMENTS OF FAMILY ALLOWANCES AS OF MARCH, 1955  
(The overpayments may have occurred at any time between July 1, 1945 and March 31, 1955)

PROVINCE	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments Considered Uncollectable		Total Overpayments Outstanding	
	Number of Accounts	Amount	Number of Accounts	Amount	Number of Accounts	Amount	Number of Accounts	Amount
		\$ c.		\$ c.		\$ c.		\$ c.
Newfoundland.....	29	690.00	55	1,613.50	21	375.00	105	2,678.50
Prince Edward Island.....	18	170.00	5	245.00	3	32.00	26	447.00
Nova Scotia.....	71	1,366.75	103	2,052.00	38	1,196.50	212	4,615.25
New Brunswick.....	33	2,111.00	89	2,257.00	138	6,496.00	260	10,864.00
Quebec.....	384	20,763.00	941	56,325.15	1,469	118,273.68	2,794	195,361.83
Ontario.....	132	5,286.00	588	15,269.60	266	11,720.50	986	32,276.10
Manitoba.....	30	1,767.00	77	1,440.75	56	2,707.00	163	5,914.75
Saskatchewan.....	66	3,020.00	73	2,192.00	56	2,792.30	195	8,004.30
Alberta.....	99	3,521.00	124	4,321.50	120	6,513.90	343	14,356.40
British Columbia.....	82	6,719.00	58	1,920.00	142	6,045.15	282	14,684.15
N.W.T. & Yukon.....	33	1,206.85	60	2,722.00	12	1,033.32	105	4,962.17
NATIONAL.....	977	46,620.60	2,173	90,358.50	2,321	157,185.35	5,471	294,164.45

TABLE 29  
(Family Allowances and Old Age Security)  
STATISTICS ON OLD AGE SECURITY

PROVINCE	Number of Pensioners in Pay March, 1954	Net Payment for March, 1954 only	Number of Pensioners in Pay March, 1955	Net Payment for March, 1955 only	Total Net Payment for Fiscal Year Ended March 31, 1954	Total Net Payment for Fiscal Year Ended March 31, 1955
		\$		\$	\$	\$
Newfoundland.....	15,343	614,780	15,693	626,282	7,242,820	7,459,680
Prince Edward Island.....	6,669	267,220	6,786	272,250	2,203,780	3,261,800
Nova Scotia.....	36,961	1,481,253	37,801	1,516,140	17,702,477	18,149,526
New Brunswick.....	26,288	1,054,943	27,014	1,085,756	12,606,600	12,945,905
Quebec.....	152,682	6,080,598	158,109	6,303,599	72,032,527	74,724,977
Ontario.....	264,831	10,596,735	274,680	10,974,305	125,775,222	130,296,095
Manitoba.....	42,592	1,702,804	44,591	1,787,098	20,052,895	21,051,155
Saskatchewan.....	42,505	1,710,400	44,821	1,801,890	20,111,120	21,202,779
Alberta.....	42,868	1,723,890	45,384	1,824,033	20,137,730	21,418,246
British Columbia.....	85,191	3,355,955	90,201	3,547,380	39,880,100	42,449,810
N.W.T. & Yukon.....	469	18,880	540	21,671	225,520	245,360
NATIONAL.....	716,399	28,607,458	745,620	29,760,404	338,970,791	353,205,353



TABLE 30

(Family Allowances and Old Age Security)

FREQUENCY OF CLASS B ITEMS ACCEPTED TO PROVE AGE  
FOR OLD AGE SECURITY APPLICANTS

	Percentage of Times Item Accepted
Census Records.....	26.8%
Immigration, Passport, Naturalization and Citizenship Records.....	15.2%
Birth and Baptismal Certificates (not Class A).....	12.1%
1940 National Registration.....	10.7%
Marriage Records.....	9.7%
Family Bible and Other Family Records.....	5.8%
School and Employment Records.....	4.7%
Other.....	15.0%

## NOTE:

It will be recalled that, of the total number of applications 79.2% were approved on the basis of one item of Class A evidence of age. The remainder, 20.8%, were approved on the basis of two items of Class B evidence. Amongst the items of Class B evidence accepted in the 20.8% of the cases, certain items appeared more frequently than others. The table above gives, in percentages, the number of times each item of Class B evidence was accepted as compared with the total number of Class B items which were accepted.

## **Old Age Assistance, Allowances for Blind Persons and Allowances for Disabled Persons**

### **Old Age Assistance**

The agreements made by the Government of Canada with the ten provinces and the two territories under the Old Age Assistance Act continued in operation during the fiscal year 1954-55. With the exception of the one with Newfoundland, all agreements provide for a maximum amount of assistance of \$40 a month. In the agreement with Newfoundland the amount specified is \$30 a month. The maximum amounts of income are the maximum amounts allowed by the Act. These are \$720 a year in the case of an unmarried person, \$1200 a year in the case of a married person and \$1320 a year in the case of a married person with a blind spouse. The qualifying age specified in each agreement is sixty-five years. The residence requirement in the Act of twenty years in Canada can not be modified by the agreements.

There was only a small increase during the year in the number of recipients. As at March 31, 1955, the number was 94,625. As at March 31, 1954, it was 93,273. Federal expenditure for the fiscal year 1954-55 was \$20,869,126.09 as compared to an expenditure of \$20,288,152.60 for the fiscal year 1953-54. The federal government pays one-half of the cost of old age assistance.

The comparatively small increases in the number of cases and in the federal expenditure give a rather inaccurate impression of the operations under the Act. Actually the provinces handled 32,722 new applications during 1954-55. Of this number 27,688 were accepted and 4,232 were rejected. At the same time they transferred to old age security 20,987 persons who attained the age of seventy years during the fiscal year.

Transfers to old age security have had, and apparently, to an increasing extent, will continue to have the effect of keeping down the total number of recipients of old age assistance. Since the Old Age Assistance Act and the Old Age Security Act came into operation on January 1, 1952, the provinces have transferred a total of 53,209 recipients to old age security. The automatic termination of old age assistance payments at the age of seventy seems to be having a more important influence on the expenditure for old age assistance than was expected when the Old Age Assistance Act was passed by Parliament in 1951. At that time it was estimated that federal expenditure in the beginning would be about \$32,000,000 a year.

Federal administration is a responsibility of the Old Age Assistance Division in the Welfare Branch of this department. Members of the Division are stationed in provincial offices.

### **Allowances for Blind Persons**

While the Speech from the Throne on January 7, 1955, referred to amendments to the Blind Persons Act lowering the age of eligibility and raising the income ceilings, Parliament had not dealt with the Bill at the close of the fiscal year 1954-55. There was, therefore, no change during the fiscal year in the agreements made by the Government of Canada with the provinces and the territories. In the agreements the amount of maximum allowance payable is specified as \$40 a month and the amounts of maximum income are the same as in the Act, namely, \$840 a year in the case of an unmarried person and \$1040 if there is a dependent child, \$1320 a year in the case of a married person and \$1440 if the spouse is also blind. The age requirement of 21 years in the

federal Act and the residence requirement of 10 years can not be modified by the agreements.

The number of recipients under the Blind Persons Act as at March 31, 1955 was 8,122. As at March 31, 1954 the number was 8,214. Transfers to old age security partly explained the decrease. Since the inception of the Act 1,363 recipients have been transferred to the federal old age pension.

In 1953-54 there were 1,856 persons who applied for allowances and in 1954-55 there were 1,624. Of the latter number 849 were granted allowances and 734 were rejected. Of the applicants rejected 552 failed to meet the medical test of blindness.

With a smaller number of recipients, federal expenditure decreased from \$2,914,102.07 for the fiscal year 1953-54 to \$2,886,184.15 for the fiscal year 1954-55. The federal government pays seventy-five per cent of the cost of blindness allowances.

Federal authorities deal with the medical part of the administration, the Chief of the Blindness Control Division in the Health Branch being responsible for the certification in all cases. Applicants are referred by the provinces to oculists employed and paid by the federal government. Oculists report their medical findings to the Chief of the Blindness Control Division. In certain cases the travelling expenses of oculists are also paid.

The financial part of federal administration is the responsibility of the Old Age Assistance Division in the Welfare Branch. Federal examiners who are members of the division are stationed in the provinces. Provincial accounts are audited at Ottawa.

### **Allowances for Disabled Persons**

The Disabled Persons Act came into force on January 1, 1955. Eight of the ten provinces made agreements under the Act effective from January 1, 1955. The other two, namely, British Columbia and Newfoundland, made agreements effective from April 1, 1955. As at March 31, 1955, the territories had not submitted agreements although they had passed enabling legislation.

The agreements with all provinces specify \$40 a month as the maximum allowance payable. The amounts of income are the maximum amounts allowed by the Act. These are, \$720 a year in the case of an unmarried person, \$1200 a year in the case of a married person and \$1320 if the spouse is blind. The age of eligibility in all provinces is eighteen years, which is the minimum age specified in the Act. The residence requirement of ten years applies to all provinces and is not affected by the agreements.

The decision as to whether an applicant is totally and permanently disabled is based on federal regulations dealing with this matter. The general procedure is for a joint review of the medical information by provincial and federal medical officers. The medical officers may obtain advice from other sources, or, if they can not agree, they may refer the case to another physician for his decision. Under agreements, arrangements may be made for an equal sharing by the federal government and the provinces of the cost of special medical services, services of medical referees and certain transportation expenses.

During the fiscal year 1954-55 federal payments were made to five provinces. As at March 31, 1955, there were 7,166 recipients according to reports made by the provinces. Of this number the majority, 6623 were in Ontario. Most of these were, previous to January 1, 1955, recipients under a provincial plan which came into force on July 1, 1952. Presumably payments were made prior to March 31, 1955 by other provinces which, at that date, had not made any claims for federal reimbursement.

Federal payments to five provinces for the fiscal year 1954-55 were \$419,378.84. The federal government pays fifty per cent of the cost of allowances for disabled persons.

The allowances are administered by a provincial authority which, in most provinces, is the same officer or body administering old age assistance and blindness allowances.

Federal administration of the allowances is a responsibility of the Old Age Assistance Division in the Welfare Branch of the Department. The Medical Rehabilitation and Disability Advisory Services Division in the Health Branch is responsible for the medical part of the plan so far as the federal authorities are concerned. The details on medical matters will be found in the section of this report dealing with that service. Federal examiners and federal medical officers are stationed in the provinces.

### Old Age Pensions

Although the Old Age Pensions Act was repealed on March 31, 1954, there were a few items of expenditure during the fiscal year 1954-55. Certain cheques issued while the Act was in operation were presented for payment. The total amount paid by the federal government in such cases during the year was \$414.26.

Certain provinces also refunded to the federal government seventy-five per cent of amounts received by them from pensioners or from the estates of deceased pensioners. The federal share of such payments was \$22,174.44.

As at March 31, 1955, the total of federal payments under the Old Age Pensions Act for pensions, other than pensions in respect of blindness, was \$810,926,896.64. The total amount of federal payments under the Act was \$836,855,351.39.

The amounts paid by the Government of Canada during the fiscal year 1954-55 for old age assistance and for allowances for blind persons and disabled persons, with relevant statistical information, will be found in tables 31 to 33, which follow.

TABLE 31

(Old Age Assistance Division)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES

For The Fiscal Year 1954-1955

PROVINCE	Number of Recipients	Average Monthly Assistance		Federal Payments 1954-1955	
		\$	cts.	\$	cts.
Alberta.....	5,341	36.67		1,165,331.91	
British Columbia.....	7,868	37.76		1,872,909.14	
Manitoba.....	4,847	37.64		1,119,638.96	
New Brunswick.....	5,808	36.89		1,288,095.23	
Newfoundland.....	5,073	29.38		898,972.70	
Nova Scotia.....	5,178	33.63		1,063,165.10	
Ontario.....	22,061	36.86		4,858,692.93	
Prince Edward Island.....	612	27.54		98,531.00	
Quebec.....	32,882	37.48		7,392,922.60	
Saskatchewan.....	4,853	37.22		1,089,704.15	
Northwest Territories.....	90	38.11		18,941.89	
Yukon Territory.....	12	38.41		2,220.48	
Total.....	94,625			20,869,126.09	



TABLE 32

(Old Age Assistance Division)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES

For The Fiscal Year 1954-1955

PROVINCE	Number of Recipients	Average Monthly Allowance		Federal Payments 1954-1955	
		\$	cts.	\$	cts.
Alberta.....	409	38.59		140,148.69	
British Columbia.....	474	39.02		170,795.84	
Manitoba.....	405	39.13		145,013.60	
New Brunswick.....	706	39.49		256,747.58	
Newfoundland.....	338	39.70		119,969.98	
Nova Scotia.....	706	38.57		247,787.65	
Ontario.....	1,731	38.73		607,709.18	
Prince Edward Island.....	95	37.65		30,516.06	
Quebec.....	2,866	39.18		1,028,750.38	
Saskatchewan.....	374	38.58		132,670.19	
Northwest Territories.....	16	40.00		5,175.00	
Yukon Territory.....	2	40.00		900.00	
Total.....	8,122			2,886,184.15	

TABLE 33

(Old Age Assistance Division)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE DISABLED PERSONS ACT, BY PROVINCES

For The Fiscal Year 1954-1955

PROVINCE	Number of Recipients	Average Monthly Allowance		Federal Payments 1954-1955	
		\$	cts.	\$	cts.
Manitoba.....	45	39.66		8,187.93	
New Brunswick.....	177	39.46		8,183.06	
Nova Scotia.....	285	33.39		12,141.04	
Ontario.....	6,623	39.36		389,060.94	
Saskatchewan.....	36	37.52		1,805.87	
Total.....	7,166			419,378.84	

## PHYSICAL FITNESS

The Physical Fitness Division continued to act as the agency for administering the fitness and recreation services made available under the terms of the National Physical Fitness Act. During the fiscal year 1954-55, in accordance with agreements entered into by the provincial departments concerned, the Provinces of Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Saskatchewan, and the Northwest Territories co-operated with the federal government under the terms of the National Physical Fitness Act.

The Division continued to provide a variety of professional, consultative and informational services for the assistance of provincial government departments and national organizations. It acted as a clearing house for the dissemination of information on recreation, fitness, physical education, community centres, drama, sports, the organization and administration of community and specialized programs, and related matters. Close liaison has been maintained with other countries and with the Commonwealth in particular, thus facilitating an exchange of publications and information on the latest developments abroad.

The total sum available for administration during 1954-55 was \$78,141.00. The total disbursements were \$45,250.49, leaving an unexpended balance of \$32,890.51.

### Financial Assistance to Provinces

The National Physical Fitness Act (1943) made the sum of \$225,000 available annually, on a matching per capita basis, to the provinces for the promotion of fitness and recreation. In 1949, on the entry of Newfoundland into Confederation, an additional sum of \$7,000 was made available for grant purposes.

During the fiscal year 1954-55, a total of \$236,650.62 was paid in respect of financial assistance to the provinces. Of this sum, \$79,579.87 consisted of late payments for 1953-54. No claims were outstanding at the close of the fiscal year. The balance in the fund was \$.24.

The total provincial expenditures on Fitness and Recreation programs in 1954-55, over and above the amount received from federal financial assistance provided under the terms of the Act, was \$837,107.99.

### Scholarships

Annual scholarships for advanced training in physical education and recreation were provided in 1948, as a means of overcoming the shortage of adequately trained key personnel in these fields. Since that time, 34 persons have been assisted in obtaining post-graduate training.

No scholarships were provided in 1954-55, due to the suspension of this portion of the program.

### Informational Materials

Information relevant to fitness, recreation, physical education, cultural activities, community centres, reports on new projects and research in Canada and other countries, new procedures and developments, has been issued in bulletin form to provincial fitness and recreation offices and on request.

A number of publications will continue to be on a "for-sale" basis from the Queen's Printer. Experience has indicated that the new policy of placing some information materials on a "for-sale" basis, introduced during the latter part of the fiscal year 1953-54, has been well received. Its chief value lies in the fact that it is now possible for the public generally to obtain a sufficient number of copies of any one publication to carry on work in a particular activity.

### **Audio Visual Aids**

During the year, seven blocks of visual aids, totalling 56 titles and including 14 films, ten filmstrips and 32 loops, were circulated to the provinces, where they were screened by 30 delegate committees.

In addition, this service was extended to include five centres in the Northwest Territories, with the co-operation of the Northern Administration Division of the Department of Northern Affairs and National Resources. Eleven blocks of selected visual aids (68 films, 47 filmstrips, and 13 loop films) will be used by these five centres during the period February 1954-August 1955.

On completion of the circuit screenings, the films are deposited with the Canadian Film Institute on extended loan for general use at a minimum service charge. The Preview Library consists of 216 films, 130 filmstrips, and 170 loop films.

The second supplement to the Division's Preview Library Catalogue, "Here's How to Do It", was issued in March, 1955. It contains information concerning additions to the Preview Library during the period January 1951 to January 1955.

No visual aid production was undertaken during the year.

### **REPEAL OF THE NATIONAL PHYSICAL FITNESS ACT**

An Act to repeal the National Physical Fitness Act was passed on June 15, 1954.

#### **National Council on Physical Fitness**

The National Council on Physical Fitness, established by Act of Parliament, Chapter 29 of the Statutes of Canada, 1943, assented to July 24th and proclaimed October 1st, 1943, was charged with the responsibility of promoting the fitness of the people of Canada. The Council has not met since December, 1952, and ceased to function with the repeal of the National Physical Fitness Act.

#### **Provincial Agreements**

In order to provide an opportunity for the provinces to make the necessary adjustments in their own budgets, the repeal of The National Physical Fitness Act made provision for the continuance of financial assistance to the provinces in accordance with agreements in operation at that time. In effect, this meant that the provinces having agreements received financial assistance until March 31, 1955, when all agreements expired.

Pertinent statistics follow.

TABLE 34

(Physical Fitness Division)

SUMMARY OF ALLOTMENTS AND EXPENDITURES  
PHYSICAL FITNESS DIVISION FOR THE FISCAL YEAR 1954-1955

ADMINISTRATION	\$	c.	\$	c.
Appropriation 1954-1955.....			78,141.00	
Expenditures 1954-1955				
Total salaries.....	25,704.60			
Prof. and Special Services.....	2,500.00			
Travel Expense.....	2,359.38			
Freight, Express and Cartage.....	1,027.36			
Postage.....	82.78			
Telephones and Telegrams.....	481.96			
Printing of Educational, Informational and Other Publications	8,810.41			
Educational and Informational Material Other than Publica-				
tions.....	2,074.92			
Office Stationery, Supplies and Equipment.....	2,076.02			
Sundries.....	133.06		45,250.49	
Balance at end of fiscal year 1954-1955.....			32,890.51	
ASSISTANCE TO PROVINCES				
Balance from 1953-1954.....	75,537.86			
Appropriation 1954-1955.....	161,113.00			
Total available for grant purposes.....			236,650.86	
Expenditures 1954-1955				
Nova Scotia.....	10,641.25			
New Brunswick.....	8,540.00			
Ontario.....	152,273.00*			
Manitoba.....	12,859.75			
Saskatchewan.....	17,216.87†			
Alberta.....	15,558.50			
British Columbia.....	19,296.25			
Northwest Territories.....	265.00		236,650.62	
Unexpended balance.....				.24

\* This includes a late payment of \$76,136.50 for 1953-1954.

† This includes a late payment of 3,443.37 for 1953-1954.



TABLE 35

(Physical Fitness Division)  
SUMMARY OF FINANCIAL ASSISTANCE TO PROVINCES — NATIONAL PHYSICAL FITNESS ACT

Province	Population 1951 Census	Amount of grant (b) available		Payment of Grants according to Fiscal Year (a)												1914-15	
		\$	cts.	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	\$	cts.
P.E.I.	98,429	1,630.00				774.49*		2,323.75*	1,858.50	1,858.50	1,858.50					12,395.74	
N.S.	642,584	10,641.25		7,418.43	6,747.50	2,409.40*	8,685.40	14,001.98	11,426.92	10,415.36	9,260.69	10,940.57	10,641.25	10,641.25		112,665.83	
N.B.	515,697	8,540.00					2,186.86	6,280.65	8,943.75	6,771.84	8,412.32	8,540.00	8,540.00	8,540.00		58,215.42	
P.Q.	4,055,681	67,163.25		Did not participate												Nil	
Ont.	4,597,542	76,136.50															
Man.	776,541	12,859.75			2,692.44*	7,484.92*	7,932.66*	5,997.84*	7,237.93*	8,250.97*	74,063.25*	74,063.25*	76,136.50*	76,136.50*		450,399.25	
Sask.	831,728	13,773.50			17,044.65*	17,545.75*	17,545.75*	17,590.75	17,520.75	17,520.75	17,520.75	13,773.50	13,773.50	13,773.50		184,528.77	
Alta.	939,501	15,558.50			15,088.76*	15,515.61	19,488.12	14,671.79	16,463.71	15,567.75	15,567.75	15,558.50	15,558.50	15,558.50		167,020.76	
B.C.	1,165,210	19,296.25		16,015.75		16,015.75*	16,015.75	15,993.00	15,993.00	15,993.00	15,993.00	19,296.25	19,296.25	19,296.25		185,923.75	
N.W.T.	16,004	265.00					234.00	234.00	234.00	234.00		234.00*	265.00*	265.00		1,965.00	
Yukon...	9,096	150.75		Did not participate													
Nfld.	361,416	5,985.25		Did not participate													
Totals	14,009,429	232,000.00		23,434.18	40,555.12	87,609.75	80,635.29	78,884.76	79,678.56	150,675.42	152,240.71	155,532.03	170,165.50	236,650.62		1,274,190.94	

(a) Payments made in any one fiscal year may include payments in respect of previous years.

(b) Initially, the sum of \$225,000.00 was pro-rated on a per capita basis for nine provinces. Later the amounts were re-calculated on the basis of nine provinces and two territories. When Newfoundland entered confederation, an additional \$7,000.00 was made available for that province. In 1952, re-calculations were based on the 1951 census and \$232,000.00.

(c) As agreements were renewed, the periods of agreement were changed to coincide with the fiscal year. This necessitated making agreements for periods other than twelve months in some cases.

\*—Payment for claim of previous fiscal year.

TABLE 36  
(Physical Fitness Division)

SUMMARY OF PROVINCIAL EXPENDITURES, EXCLUSIVE OF FEDERAL FITNESS GRANTS PER FISCAL YEAR

Province	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	Total 1944-1955
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
P.E.I.....		774.49	1,861.00	11,032.03	18,125.73	8,141.48	11,166.50	14,673.40				65,794.63
N.S.....	7,418.43	9,156.90	10,077.08	22,847.13	16,225.97	22,836.99	12,636.61	9,047.15	13,957.19	19,060.02	21,007.87	164,271.04
N.B.....				4,373.71	6,380.63	11,963.39	9,488.21	22,149.22	16,308.30	14,802.85	18,197.89	103,564.20
Ont.....						408,088.50	464,468.79	301,840.59	520,485.64	539,510.34	608,658.70	2,843,052.56
Man.....	7,217.23	7,535.34	8,318.87	6,342.38	7,766.96	8,810.77	12,287.97	13,639.46	15,331.02	15,331.02	18,140.25	120,671.27
Sask.....	17,044.64	37,212.93	39,960.82	56,901.96	30,990.29	29,211.83	29,283.29	38,307.75	45,840.22	54,675.06	64,874.62	444,322.41
Alta.....	16,840.62	23,132.42	26,072.40	57,374.70	16,185.70	27,224.80	27,832.15	42,531.67	29,128.48	35,953.78	29,340.79	331,617.51
B.C.....	34,816.70	47,630.57	55,523.03	74,916.67	86,185.35	107,511.63	105,607.80	115,720.82	125,819.41	67,503.49	71,350.08	892,585.55
N.W.T.....				21,000.00	24,766.00	11,977.05	13,316.00	23,003.67	29,000.94	35,836.88	5,537.79	164,438.33

NOTE: The Provinces of Quebec and Newfoundland and the Yukon Territories have not participated in the National Physical Fitness Programme.

TABLE 37  
(Physical Fitness Division)  
ASSISTANCE TO PROVINCES AND PROVINCIAL EXPENDITURES UNDER NATIONAL PHYSICAL FITNESS ACT,  
RELATING TO 1954-55

Province	Department Responsible for Administration	Expiration of Current Agreement	TOTAL EXPENDITURES				Population 1951 Census	PER CAPITA EXPENDITURES(1)		
			Provincial	Federal	Total	Provincial		Federal	Total	
			\$ cts.	\$ cts.	\$ cts.	\$	\$	\$	\$	
Nova Scotia.....	Dept. of Education, Halifax	31 March, 1955	21,007.87	10,641.25	31,649.12	642,584	.0326	.0165	.0491	
New Brunswick.....	Dept. of Education, Fredericton	31 March, 1955	18,197.89	8,540.00	26,737.89	515,697	.0353	.0165	.0518	
Ontario.....	Dept. of Education, Toronto	31 March, 1955	608,658.70	76,136.50 (2) 76,136.50	760,931.70	4,579,542	.1329	.0165	.1494	
Manitoba.....	Dept. of Health and Public Welfare, Winnipeg	31 March, 1955	18,140.25	12,859.75	31,000.00	776,541	.0233	.0165	.0398	
Saskatchewan.....	Dept. of Education, Regina	31 March, 1955	64,874.62	3,443.37 (2) 13,773.50	82,091.49	831,728	.0779	.0165	.0944	
Alberta.....	Dept. of Education, Edmonton	31 March, 1955	29,340.79	15,558.50	44,899.29	939,501	.0312	.0165	.0477	
British Columbia.....	Dept. of Education, Victoria	31 March, 1955	71,350.08	19,296.25	90,646.31	1,165,210	.0612	.0165	.0777	
Northwest Territories	Dept. of Northern Affairs and National Resources, Ottawa	31 March, 1955	5,537.79	265.00	5,802.79	16,004	.3460	.0165	.3625	

NOTE:

(1) Late payment for 1953-54 not included in summary of per capita expenditures for 1954-55.

(2) Late payment for 1953-54.

## CIVIL DEFENCE

### General

The responsibility of the Civil Defence Division is to implement federal policy respecting those measures (preventive and remedial) that should be taken by or on behalf of the civil population in the event of an attack.

The five major functions of Civil Defence in Canada are:

- (1) To plan, co-ordinate and ensure implementation of a national Civil Defence program in conjunction with other departments of the Federal Government, Provincial Governments, Municipal Governments and other organized groups throughout Canada.
- (2) To ensure provision of an advance air raid warning system at designated target areas, in co-operation with provincial and local authorities.
- (3) To provide central training facilities for specialist instructors, and to supply publications, training aids and equipment, as necessary, to provincial or municipal training schools.
- (4) To carry out research and development for Civil Defence.
- (5) To ensure co-operation and co-ordination with other countries of the North Atlantic Treaty Organization in respect to Civil Defence.

### Organization

Civil Defence continued to make marked progress during the year. To add impetus to civil defence activities, the Civil Defence Division was re-organized and experts in the fields of communications, transportation, health and welfare were enlisted. It is now comprised of the following branches and services.

- (a) Administrative Branch
- (b) Training and Operations Branch
- (c) Plans Branch
- (d) Transportation and Communications Branch
- (e) Public Relations
- (f) Secretariat
- (g) Library and Statistics
- (h) Health Services Branch
- (i) Welfare Planning Group
- (j) Canadian Civil Defence College, Arnprior.

### Compensation Agreements

British Columbia, Alberta, Saskatchewan and Ontario have now signed Compensation Agreements with the federal government, permitting compensation to be made for injury or death to civil defence workers on a 50-50 basis. Similar agreements were being negotiated with Manitoba, New Brunswick and Newfoundland.

### Canadian Civil Defence College—Arnprior

Training doctrines and principles, as well as methods of putting these concepts into effect, received intensive study, as did civil defence operation patterns and procedures.



Civil Defence equipment continued to be developed by testing and experimental work.

The organization of the College is comprised of a Commandant, an administration section and a training wing, having an overall complement of approximately 85 persons.

During the year, 56 courses were conducted and attended by 1,652 candidates from all parts of Canada.

The fields of study covered all phases of civil defence activities, including welfare, police, health, communications, rescue and warden training.

## Health Services

Information respecting treatment procedures, casualty handling and regulation and research was gathered through advice received from numerous panels of the Defence Research Board and through specially-constituted working parties of specialists and recognized experts in the various Health Services fields. The subjects under constant review included blood, blood derivatives and transfusion services, mortician services, mental health, dental services, pharmacist services, nursing services, including nurses' aides and home nursing, surgical procedures, treatment of burns, mass casualty regulation, hospital organization and administration, first aid station organization and operation, first aid and home nursing training, training of physicians, organization of industrial medicine, first aid techniques, casualty simulation (for training purposes) and the defence against nuclear, biological and chemical warfare agents.

Progressive indoctrination of hospital administrators, chiefs of surgery and directors of nursing services of hospitals in Canada was carried out through a series of Hospital Disaster Planning Institutes conducted regionally across Canada. Four such institutes have been held for British Columbia-Alberta, Atlantic Provinces, Western Central Ontario and Quebec (English-speaking hospitals), respectively.

The first indoctrination course for physicians was held at the Canadian Civil Defence College during the last week of February. Candidates included the chiefs of medical services of 15 of Canada's largest industrial concerns.

During the year, a new section known as "Special Weapons" was added to Civil Defence Health Services to deal with the development of a program of research, planning and training for defence against nuclear, biological and chemical warfare agents. Special studies of the problem of radioactive fallout were made.

Late in 1954, initial steps were taken towards the solution of the psycho-social problems arising out of disaster. An Advisory Committee of Social Scientists was formed and initial consideration was given to all psychological and psychiatric problems which might arise as a result of dispersal tactics and strategic withdrawal, and generally with respect to panic control and the use of communications therewith.

Considerable organization took place with respect to the supplementary blood services which would be required in the event of mass casualties resulting from disaster.

Thirteen hundred nursing instructors received indoctrination in the civil defence aspects of nursing. Instruction in civil defence was extended through these trainees to some 30,000 nurses in Canada.

The first course in casualty simulation (for training purposes) was conducted at the Canadian Civil Defence College in February-March, 1955. During the year, a special committee concluded an extensive series of meetings for the purpose of preparing material for publication in the art of casualty simulation. By the end of the fiscal year, the manuscript was completed and publication is expected shortly. During this period also, the manuscript was completed for a new manual on the "Fundamentals of First Aid".

### **Civil Service Civil Defence (Ottawa)**

The Civil Service Civil Defence organization (Ottawa) has now trained 3,583 in most phases of civil defence as of 31 March, 1955. These are organized into operational teams throughout 137 federal buildings in Ottawa.

During 1954, fire and evacuation drills were successfully staged in 60 of these buildings. A good percentage has received expert training at the Canadian Civil Defence College, Arnprior, on basic rescue, fire fighting and equipment handling; 1,150 have qualified in first aid. All have rendered invaluable assistance in casualty simulation courses at the College and in so doing received valuable training.

### **Research and Development in Civil Defence Matters**

The Defence Research Board and the National Research Council were continually engaged in a number of projects related to thermonuclear weapons, the use of blood substitutes, shock therapy, effects of weapons and radiation detection.

### **Welfare Planning**

The civil defence Welfare Group continued to round out plans and procedures with respect to all welfare aspects of civil defence. Pamphlets, guides, manuals, etc., were produced for use at federal, provincial and municipal levels for training and the planning of operations.

Ten Welfare courses were held at the Civil Defence College, Arnprior, providing training for 365 persons. These included courses in general welfare, emergency feeding, emergency clothing, emergency lodging, registration and inquiry.

Assistance was given the City of Brockville during a recent evacuation exercise by providing staff for emergency feeding and a registration service.

In July, 1954, the first "Registry and Inquiry" course was held at Arnprior. On 29 July, some 600 members of the Civil Service Civil Defence organization (Ottawa) participated in a "mass exercise" with considerable benefit to all.

Two welfare experts assisted Toronto and Ontario officials in the rehabilitation work following "Hurricane Hazel".

During the year, the first civil defence welfare film "The Homeless Ones" was produced and released. Considerable favourable comment has been received.

### **Co-ordination and Co-operation with Provincial Authorities**

Since the civil defence plan is based on three-way co-operation between federal, provincial and municipal governments, its success obviously depends in a large measure on the co-operation shown by the other two levels of government. In this connection it is encouraging to report that provincial co-operation, particularly as evidenced in the financial assistance program, was considerably greater than in the previous year. Whereas in the fiscal year 1953-54, only five provinces had participated in the financial assistance program, this number was increased for 1954-55 to seven; and in one of the remaining provinces, Ontario, assistance was provided directly to a number of municipal civil defence organizations, even though Ontario itself did not directly participate. Before the end of the fiscal year, Ontario had announced that it would participate in the fiscal year 1955-56.

Apart from financial assistance, the level of activity in the civil defence field varies from province to province, with the western provinces showing, in general, more active interest than those in the east. By the end of the fiscal year, however, with the exception of Prince Edward Island and Quebec, where activity is at a minimal level, all provinces and most of their important municipalities were reasonably active.

## Training

The tempo of training federal, provincial and municipal civil defence organizations was stepped up. During the year, 56 courses were conducted at the Canadian Civil Defence College, Arnprior, at which a total of 1,652 candidates attended. These courses covered the following main subjects: welfare, registration, emergency feeding, emergency clothing, police forums, police panels, orientation, communications, Civil Service fire fighting, rescue, tactics, general instructors, warden instructors, technical reconnaissance, training officers, staff courses and one harbour study.

In addition to the foregoing, the provinces have supplied the following statistics with respect to the recruitment of civil defence workers. These may be classified into two categories: those engaged on a full-time basis and those as citizen volunteers:

TABLE 38  
(Civil Defence Division)  
CIVIL DEFENCE WORKERS IN CANADA  
(AS AT MARCH 31, 1955)

Province	Full Time	Citizen Volunteers	Training Completed
British Columbia.....	15,729	25,725	26,337
Alberta.....	14,472	11,525	22,625
Saskatchewan.....	4,258	8,914	745
Manitoba.....	2,150	8,898	6,945
Ontario.....	17,195	11,125	10,442
Quebec.....	17,523	11,943	4,079
New Brunswick.....	671	2,032	914
Prince Edward Island.....			
Nova Scotia.....			253
Newfoundland.....	14	106	
N.W.T. and Yukon.....	11	74	1
Federal HQ and College.....	114		45
Civil Service C.D.....	5	4,495	2,920
Totals.....	72,142	84,847	75,306

The R.C.A.M.C. School at Camp Borden has also trained approximately 1,000 persons in Radiac Defence. Selected personnel from federal and provincial levels have attended training courses at the United States F.C.D.A. Staff College and the United Kingdom Staff College.

The St. John Ambulance Association recruited and trained sufficient civil defence first aid workers to staff 450 First Aid stations on the basis of 100 persons per station. Other civil defence volunteers such as rescue, fire, police and wardens received first aid training. As at 31st March, 1955, 10,970 persons in all had received either basic or advanced training from the St. John Ambulance Association.

The Department of Veterans Affairs continued to operate schools for the training of Nurses' Assistants at selected D.V.A. hospitals for and on behalf of this Department to meet the requirements of civil defence in the event of a major disaster. For this purpose, the Department of Veterans Affairs was reimbursed \$150,000, of which \$104,000 was for gratuities to trainees, \$39,000 for salaries to instructors and \$12,000 for affiliation fees, supplies and other miscellaneous items.

## Supplies and Equipment

The federal government issued, as "free-issue", equipment having a value of \$313,000, to the provinces. The main items of issue were rescue vehicles, rescue training equipment, air raid sirens, radiacal reconnaissance kits, wardens' training first aid kits and assorted pyrotechnic supplies.

The provinces also received, as "free-issue", training aids in the form of films strips and slides. Included were such films as "The Homeless Ones", "Fires in the Home", "Rescue Skills" and "Industrial Plant Protection".

## Training Exercises

A number of training exercises was participated in, notably "Exercise Alert No. 1" held jointly, on 14 and 15 June, 1954, by the United States and Canadian civil defence organizations. A temporary Canadian Civil Defence Control Centre was established at the Civil Defence College, Arnprior. A teleprint net-work linking the federal Control Centre with all provincial Civil Defence headquarters was set up. The use of this net-work during the test periods and during the exercise provided invaluable experience to federal and provincial civil defence staffs. While a trans-Canada net-work was established for the month of June, only a reduced net-work was maintained for the remainder of the year between Ottawa and the four western provinces, for training purposes.

St. John's, Newfoundland, conducted two token evacuation exercises.

Brockville, Ontario, held an evacuation exercise and 9,000 people were moved out of the city in 2,700 vehicles.

On 11 December, 1954, the Province of Ontario conducted a Control Centre Exercise (Exercise "Trillium"). Federal assistance was given by activating the federal Control Centre; physical assistance was given by specialists loaned by federal civil defence headquarters.

## Warning and Communications

The early warning net-work, which was established in previous years between Canadian Air Defence Control Centres and provincial key points, was maintained and subjected to monthly tests.

Four hundred and eighteen two-tone sirens complete with control apparatus, were especially manufactured and supplied to federally-designated target areas at a cost to the federal government of approximately \$300,000; these are under constant tests to maintain maximum efficiency under all conditions. Experimental work was continued to determine the efficient operation of sirens under extreme temperatures.

Two communications courses were held at the Canadian Civil Defence College during May and December, 1954.

A mobile communications unit was designed, together with required equipment. The unit was delivered late in the fiscal year.

Plans and specifications for a federal civil defence Control Centre at Arnprior were designed and prepared, together with equipment. Construction began late in the fiscal year and will be available for "Exercise Alert No. 2".

A comprehensive communications manual was published in standard printed form.

Continued action is being taken to gather data that will facilitate the determination of essential radio communication services.



## Financial Assistance Program

As at 31 March, 1955, all provinces, with the exception of Ontario and Quebec, had entered into agreements with the federal government taking advantage of the federal civil defence grants appropriation as discussed at the 1954 Federal/Provincial Conference. The Province of Ontario, however, indicated its willingness to co-operate wholeheartedly with the federal agency during the fiscal year 1955-56.

In 1954, the federal government increased the amount of federal funds available for civil defence sharing purposes from \$1,400,000 to \$2,000,000 and increased the provincial quotas accordingly. Moreover, the method of sharing was made more flexible in that, for certain classifications, the federal government agreed to contribute 25 per cent of the cost irrespective of whether the provincial government contributed funds, and if the provincial government did contribute funds, the federal government would match the provincial contribution dollar for dollar to a maximum federal contribution of 50 per cent.

As a result of this new sharing policy, nine Ontario municipalities submitted projects and were reimbursed 25 per cent of their respective expenditures.

Of the \$2,000,000 provided for grants to provinces for general civil defence purposes, \$538,152 was committed and payments to provinces and municipalities totalled \$415,825. Quotas, commitments and payments by provinces are summarized below:

TABLE 39  
(Civil Defence Division)

### FEDERAL CIVIL DEFENCE GRANTS TO PROVINCES

Province	Quota	Commitment	Payments
	\$	\$	\$
Newfoundland.....	45,863	41,000	21,373
Prince Edward Island.....	10,827		
Nova Scotia.....	92,128	41,902	17,925
New Brunswick.....	63,777	18,194	12,433
Quebec.....	603,375		
Ontario.....	692,036	21,208	18,122
Manitoba.....	117,286	56,202	25,892
Saskatchewan.....	91,490	53,779	42,807
Alberta.....	118,922	118,922	118,922
British Columbia.....	187,272	186,946	158,350

## Hose Coupling Standardization Program

The federal government committed itself by Federal Provincial agreement to meet one-third of the cost of standardization of hose couplings. British Columbia, Alberta and Ontario have entered into contracts with the federal government, with the federal share of the program to be as follows:

Ontario	\$367,000
British Columbia	82,000
Alberta	60,000

The program in Ontario has now been completed, with British Columbia and Alberta approaching completion.

## Stockpiling of Emergency Medical Supplies and Equipment

The stockpiling of medical supplies and equipment has continued steadily since 1952, with the greatest progress being made during the year 1954-55.

As of 31 March, 1955, supplies amounting to approximately \$4,000,000 had been ordered. Of this amount, supplies totalling nearly \$3,000,000 had been delivered. Plans were made to complete the original \$9,000,000 program by 31 March, 1957.

The program will be rounded out through the purchase of remaining requirements, including blood derivatives, plasma, volume expanders, transfusion equipment, supplies and equipment for defence against special weapons, clinical and portable laboratories, and certain other requirements for emergency hospitals.

During the year, the matter of regional storage facilities for the medical stockpile was studied and specific recommendations made by the Interdepartmental Committee respecting the acquisition, location and administration of such storage depots.

## Public Information

During the year, two new booklets were produced on "Basic Rescue Skills" and "Fires in the Home" for distribution to the provinces. Preliminary work was begun on a semi-technical booklet entitled "Fundamentals of First Aid" for the use of instructors. A well-illustrated text book known as "Casualty Simulation" was completed for distribution early in 1955. As a result of the advent of the hydrogen bomb, an extensive rewriting program was begun on booklets respecting shelter, basic training, mutual aid areas and reception areas.

A group of posters "Justin Case" and a series of posters "Be Alert" were designed and distributed to the provinces.

Working in conjunction with United States civil defence authorities, a 13 minute film "Front Lines of Freedom" was produced and scheduled for release in the summer of 1955. Brought to the planning stage was a film on survival under atomic attack. News clips and short training films on rescue and welfare subjects were completed.

Short radio dramas were produced, recorded and distributed across Canada and were aired on 110 independent broadcasting stations, and a number of news clips and films was provided to TV stations.

Civil defence display models ranging from 10 to 30 feet were built at the request of provincial and municipal civil defence organizations. A large number of films, maps, charts and innumerable other training aids was produced for civil defence purposes.

Two civil defence informational conferences were held in March, attended by representatives of the public relations staffs of provincial and local civil defence organizations and top ranking newsmen from all media and agencies across Canada.

Close liaison with opposite numbers in the United States F.C.D.A. and with provincial and local organizations was maintained.

## Status of Civil Defence Organization

Progress of civil defence organization by communities, by provinces, is shown in the appended table, which classifies communities according to the following formula:

1. Municipalities where the organization of civil defence is complete, where a full-time or part-time Director has been appointed or where it is broken down into the various services and training is carried out;

2. Municipalities where the organization is in progress and general training is being carried out, but where the organization has not yet been broken down into the services carrying out training;
3. Municipalities where organization has commenced, that is to say, a Committee has been formed and some planning has been carried out, but very little training carried out.

TABLE 40

(Civil Defence Division)

## STATE OF PREPAREDNESS, BY COMMUNITIES, BY PROVINCE

	1	2	3
British Columbia.....	31	37	39
Alberta.....	20	26	227
Saskatchewan.....	1	59	20
Manitoba.....	2	3	81
Ontario.....	72	29	105
Quebec.....	1	2	47
Nova Scotia.....		14	21
New Brunswick.....	1	4	4
Prince Edward Island.....			1
Newfoundland.....			3
Northwest Territories.....			4
Yukon.....			2
Total.....	128	174	554

## ADMINISTRATION BRANCH

The Administration Branch of the department consists of the following Divisions: Departmental Secretary's, Information Services, Legal, Library, Personnel, Purchasing and Supply, and Research and Statistics.

Because these divisions serve the entire department both in Ottawa and in the field new and increased activities elsewhere in the department resulted in a greater volume of work for all divisions of the Administration Branch.

### DEPARTMENTAL SECRETARY'S DIVISION

Responsibilities of the Departmental Secretary's Division continued to fall into two broad classes—those which the Departmental Secretary carried out personally and those which were carried out largely by the staff of the division.

Included among the first group were (a) acting as financial adviser to the department in respect of many aspects of its work; (b) assisting the Minister and the Deputy Ministers in the long and complicated procedure related to the preparation and approval of the departmental estimates from the time they were first drafted until they were approved by Parliament; (c) acting as the Deputy Ministers' substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfers between allotments, submissions to Council and to Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament; and (e) carrying out many special projects which were assigned from time to time.

The second group of responsibilities were borne by the various Sections of the division as follows:

The Registry Services carried out all phases of the work relating to the custody, circulation, and retirement of the department's official records. This involved the operation of a central registry and eight sub-registries in Ottawa, and the provision of advice, assistance and a certain degree of supervision in respect of records in many departmental establishments across Canada. The reorganization and standardization of the records system and related procedures in all establishments of the Food and Drug Directorate was completed. New or completely revised file series were also created for a number of other divisions. Mail, messenger and truck services at head offices continued to be provided by this section.

The Accounts and Estimates Section continued to assist in providing financial advisory assistance to the department and relieving directors and chiefs of the burden of maintaining accounting records and of routine administrative duties related to financial matters. This section also carried out much of the detail involved in the preparation of departmental estimates and continued to act as liaison between the department and the Treasury Office serving it.

The work of the Correspondence Section consisted largely of preparing replies to the many thousands of letters and enquiries which were received on a wide range of health and welfare subjects.

Large quantities of booklets, leaflets and other documents continued to be reproduced in the Duplicating Section. Over 18,500,000 duplicating impressions were produced, representing a substantial increase over the previous year, and the many related operations increased accordingly.

The Secretarial Services Section again provided a central source of stenographic and typing assistance to the entire Department in Ottawa. As well, all typing and mat



work required in preparing material for reproduction in the Duplicating Section were done by the Secretarial Services. Varityper and I.B.M. Executive facilities were also available.

In addition, the Departmental Secretary's Office continued to act as the centre for information for the whole department and to carry out the wide range of duties which normally fall to the lot of the secretariat of a large organization.

### INFORMATION SERVICES DIVISION

With the co-operation of mass communication media and of government and voluntary organizations in its field, the Information Services Division continued to carry on an active health, welfare and civil defence information program.

In its role as co-ordinator and central production agency for health education materials, the Division sponsored the Fifth Federal-Provincial Health Education Conference held at Ottawa at the end of May, when representatives of all provincial health departments discussed requirements and procedures with information officers and other departmental officials.

An Exhibition and Critique of its work was arranged by the division and was visited by parliamentarians, officials of government departments, representatives of the press, radio, film and television, the professions, citizens groups and others, as well as by delegates to the Health Education Conference. The visitors' comments on productions and procedures were recorded for study as a guide in the division's future programs.

Major events in which the division handled public relations arrangements included the continent-wide civil defence exercise "Operation Alert" on June 14, visits by Members of the Senate and House of Commons and of the Parliamentary Press Gallery to the Canadian Civil Defence College at Arnprior and to the Laboratory of Hygiene, and the announcement of results of the Canadian Weight-Height Survey. Staff from the division handled press relations for the International Conference on Social Work and also distributed health and welfare educational materials there and at the International Conference on Mental Health.

### Projects

Generous publicity was provided by news media concerning the development of Canada's services to ensure the safety and well being of her citizens. A number of new productions by the division provided local authorities with educational tools which helped to stimulate public understanding of and participation in measures aimed at raising and maintaining health and welfare standards.

*Press*—The press made known the terms of joint federal-provincial legislation to benefit the blind and the totally disabled and gave generous news and editorial space to the work of the department's numerous services, often amplifying reports with illustrations.

On the occasion of "Operation Alert", a fully equipped newsroom was provided at the Canadian Civil Defence College, and newsmen were given every assistance in covering the day-long event.

Close co-operation with weekly and daily papers and their correspondents and staff reporters resulted in numerous stories and features on national health and welfare programs and personalities. The periodicals continued to make extensive use of the division's health column, cartoons and press fillers. News conferences were arranged on several occasions, enabling writers and commentators to obtain fullest first-hand information in discussion with the Minister or his representatives.

*Radio*—More than 100 radio stations from coast to coast again gave the department free time for the "Here's Health" dramatizations, these transcriptions being broadcast weekly in both English and French. News reports, on-the-spot interviews and discussions relating to the department's work and fields were broadcast frequently and many stations continued to carry the division's daily public service "National Health Notes".

*Television*—Through the co-operation of the Canadian Broadcasting Corporation and the National Film Board, the division was able to take frequent advantage of informational potentialities of the television screen. Some events in the department's fields were reported visually as well as orally and the department's health education films and publications continued to contribute to both radio and television programs.

*Periodicals*—The departmental magazine "Canada's Health and Welfare" was issued by the division with contributions from many sections of the country and from specialists in varied fields. It was widely quoted and several articles from recent issues were reprinted in other publications. Supplements issued with the magazine this year covered Civil Service Health and Foot Health.

Production was also arranged of periodicals issued by other divisions and of the Annual Report.

*Publications*—Several new publications issued this year covered health and welfare subjects on which public information material was not available elsewhere.

Two folders produced for the Food and Drug Directorate, "Safe to Take" and "The Truth About Food and Drug Labels" were revised in the light of amendments to the Food and Drug Act and were reprinted in quantity.

The following new publications were produced: "Home Safe Home", "Cerebral Palsy", "Your Health Service", "Catalogue of Indian Health Material", "Nursing with Indian Health Services", "Ear Trouble", "Fluoridation", "The Nursing Counsellor Service of the Civil Service Health Division", "Assistant to the Nurse", "Domestic Sewage Disposal (Fr.)", "Sleeping Habits", "Jealousy", "Parent Education", "Mental Health Clinics", "Here's How To Do It, (Supplement No. 2)", "Track and Field" series of nine pamphlets, "Casualty Simulation", "Fires in the Home", "Emergency Clothing Manual", "Basic Rescue Skills", "Emergency First Aid". At the year's end two other publications, "Rheumatic Fever" and "Crooked Teeth—Crooked Faces", were being printed.

An article was written for the Canadian Geographic Journal and reprints obtained under the title "Health for Indians and Eskimos".

## Displays and Posters

Displays were built by request for the use of local civil defence authorities and a number of maps, charts, and other training aids were produced for civil defence purposes. The division also established exhibits at conventions and fairs wherever possible to explain the department's functions. Six sizeable displays for use next year were initiated including one to explain the department's work generally and one to depict federal welfare provisions.

Sets of posters featuring the division's cartoon characters "Justin Case" and "Bea Alert" were designed and were distributed to provincial civil defence authorities.

Posters were prepared and produced on "Chest X-rays", "Breakfast", "Tooth-Brushing", "Immunization", "Early Prenatal Care", and "Family Allowances".

## Films and Filmstrips

Continued use was made of screen productions sponsored by the department. Efforts were made to enlarge the scope of films available to educational and community groups. The Mental Health Division's film formerly titled "Not Alone" was produced under the title "To Serve the Mind". It deals with the problem of mental illness and describes services available in Canada including those of family physicians, community mental clinics and psychiatric wards in hospitals.

The department joined with United States authorities in sponsoring production of a dramatic film entitled "Frontiers of Freedom", dealing with mass disaster and the means of dealing with it. The division produced a film for the Civil Defence Welfare Services entitled "The Homeless Ones", describing emergency feeding, housing, registration and other reception areas procedures.

Another film, made by the National Film Board for the CBC Television program "On the Spot", dealt with the work of the Food and Drug Directorate and additional prints were purchased for the department's use.

A number of filmstrips were made during the year, including "Infantile Diarrhea", "Protecting Baby from Infection", "An Indian in Hospital", "An Eskimo in Hospital", "Johnny's Magic Toothbrush", "Fear", "Destructiveness", "What is Nutrition?", and "Work of the Victorian Order of Nurses". Various newsclips were made.

During the year the National Film Board was obliged to curtail its assessment and advisory services relating to the department's Medical and National Health Film Libraries. However through the co-operation of the Canadian Film Institute, a non-government body active in the visual field, it was possible to arrange to handle enquiries concerning these libraries pending assignment of staff for the purpose, and a title listing of the films was produced for use until up-to-date descriptive catalogues can be issued. Seventeen films were added to the National Health Film Library and eighteen to the Physical Fitness Film Library.

## Miscellaneous

Assistance was again extended to authors, script writers, lecturers and others in the collection and preparation of material for public presentation. The division co-operated with several leading periodicals both in Canada and abroad on writings concerning the department's work on related health, welfare or civil defence topics. Subjects covered included cancer and virus research, obesity, fluoridation of water supplies and welfare provisions.

Several groups visiting the department were told of its work and were given informational material for subsequent use by them. Two special meetings were held with representatives of communications media, advertising and public relations interests to consider how best to tell Canadians of the urgency of preparing to deal with mass disaster.

While carrying out its main functions relating to the department's scientific work, the division's Biological Photographic Laboratory took pictures of several aspects of research facilities and procedures and also frequently turned out prints for illustration purposes. Some color photography was required in this connection.

The growing popularity and usefulness of the division's material were indicated by an increase of more than 33 per cent over the previous year in the quantity of printed



matter distributed. Some 8,500,000 items, including nearly 1,000,000 French publications, were distributed, most of the shipments being in bulk to provincial services.

### LEGAL DIVISION

During the past year the Legal Division provided professional services involving the furnishing of opinions, the preparation of contracts, agreements and other legal documents, and advice and assistance in connection with prosecutions and other litigation in which the department was concerned. Included in the last were prosecutions under the Food and Drugs Act, the Opium and Narcotic Drug Act and the Family Allowances Act.

The division was also concerned with the revision and consolidation of regulations, the drafting and revision of departmental legislation for submission to the Department of Justice, and the preparation of numerous submissions and recommendations to the Governor in Council and the Treasury Board.

The division's legal officers represented the department on various boards and on inter- and intra-departmental committees concerned with administrative and policy matters of all kinds.

### DEPARTMENTAL LIBRARY

The Departmental Library continued with the selection, acquisition and organization of reference and technical books, serial publications, pamphlets and government documents on all phases of the department's work, for collections in Ottawa and in field establishments. This material was largely confined to publications that became available during the year and was assembled into already existing collections.

Arrangements which were made to receive material through the United States Book Exchange proved especially useful for the extension of files of periodicals on the social sciences.

Organization work, such as ordering and cataloguing, was done in the Main Library only, and finished records were supplied to other establishments and the National Library as required. Cooperation continued with the Industrial Division of the Penitentiaries Commission with respect to the binding of periodicals in their shops to meet standards and specifications.

With the opening of the new Virus Laboratory, the portion of the Laboratory of Hygiene collection pertaining to the work of the Virus Section was moved into the new building and other service arrangements were made.

Two annotated bibliographies on Social Welfare in Canada for the period July 1953 to June 1954 were compiled for publication in the United Nations Social Welfare Information Series.

### PERSONNEL DIVISION

The Personnel Division continued its service to all directorates and divisions of the department in the areas of personnel management and organization.

There continued to be difficulty in recruiting and retaining professional and technical staff, which reduced considerably the stability which is essential if the department is to do its most effective work. The Personnel Division, in consultation with the Civil Service Commission, continued to explore all possible solutions of this problem.



The Personnel Division represented the department in the examination of staff estimates for the fiscal year 1955-56 under a new procedure approved by the Government. It is expected that this new procedure will allow more flexibility in day to day personnel administration and will assist in overcoming some difficulties.

In general, reasonable progress was made during the year in strengthening the organization of the department.

Personnel statistics follow.

TABLE 41

(Personnel Division)

STAFF STRENGTH BY DIVISION AT MARCH 31, 1954 AND MARCH 31, 1955

DIVISION	Strength, March 31, 1954		Strength, March 31, 1955	
	Full Time	Part Time	Full Time	Part Time
Minister's Office.....	23	.....	18	.....
Departmental Secretary.....	126	.....	128	.....
Information Services.....	29	.....	26	.....
Legal.....	6	.....	6	.....
Library.....	13	.....	16	.....
Personnel.....	41	.....	39	.....
Purchasing and Supply.....	25	.....	22	.....
Research.....	39	.....	38	.....
Health Administration.....	14	.....	15	.....
Blindness Control.....	4	.....	4	.....
Child and Maternal Health.....	6	.....	7	.....
Civil Aviation Medicine.....	5	.....	5	7
Civil Service Health.....	72	.....	78	.....
Dental Health.....	6	.....	6	.....
Epidemiology.....	14	.....	17	.....
Food and Drugs.....	211	.....	217	.....
Health Insurance Studies.....	17	.....	22	.....
Hospital Design.....	4	.....	4	.....
Occupational Health.....	39	.....	41	.....
Laboratory of Hygiene.....	89	.....	96	.....
Mental Health.....	6	.....	8	.....
Nutrition.....	21	.....	20	.....
Narcotic Control.....	25	.....	29	.....
Proprietary or Patent Medicine.....	6	.....	6	.....
Public Health Engineering.....	34	.....	33	1
Quarantine, Immigration Medical....	388	18	389	18
Indian Health Services.....	1,360	60	1,409	57
Welfare Administration.....	4	.....	3	.....
Physical Fitness.....	9	.....	6	.....
Old Age Pensions.....	17	.....	15	.....
Family Allowances.....	839	.....	839	.....
Civil Defence.....	122	.....	127	.....
	3,614	78	3,689	83

TABLE 42  
(Personnel Division)  
GEOGRAPHICAL DISTRIBUTION OF STAFF AS AT MARCH 31, 1955

	Welfare Branch including Civil Defence	Directorate of Indian Health Services	Health Branch	Administration Branch	Total
Ottawa.....	99	15	477	293	884
Northwest Territories.....		19			19
British Columbia.....		442			554
Alberta.....	56	366	56		432
Saskatchewan.....	61	146	5		202
Manitoba.....	54	87	2		162
Ontario.....	51	347	24		700
Quebec.....	322	24	31		442
New Brunswick.....	212	5	206		70
Nova Scotia.....	44	14	21		134
Prince Edward Island.....	55		65		11
Newfoundland.....	9	1	1		37
Overseas.....	27		10		125
			125		
Total.....					3,772

TABLE 43  
(Personnel Division)  
CHANGES OF FULL TIME STAFF WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES

Classification	Number of authorized positions March 31, 1955	Number appointed during the fiscal year	Number transferred or promoted during the fiscal year	Number terminated during the fiscal year	Number of vacant positions March 31, 1955	Approximate number of terminations per 100 employees
Physicians.....	283	30	11	15	16	5
Dentists.....	12	.....	1	2	2	.....
Registered Nurses.....	448	162	26	137	30	31
Chemists.....	78	3	6	5	6	.....
Bacteriologists.....	18	.....	1	2	2	.....
Pharmacists.....	4	1	.....	.....	1	.....
Laboratory Technicians.....	110	17	4	13	9	10
Nutritionists.....	10	.....	.....	.....	.....	.....
X-Ray Operators.....	18	5	.....	6	1	.....
Food and Drug Inspectors.....	36	10	11	3	5	.....
Public Health Engineers.....	22	2	8	2	9	.....
Social Workers.....	26	.....	1	.....	7	.....
Information Officers.....	8	2	2	3	2	.....
All Other Classes.....	3,182	866	159	763	393	12
	4,255	1,098	230	951	483	23

## PURCHASING AND SUPPLY DIVISION

The Purchasing and Supply Division continued to meet the ever increasing departmental requirements for materials, equipment, supplies, accommodation, printing and stationery, telephones and other public utility services. This included contracting for and procuring scientific, technical and numerous other types of equipment for hospitals, laboratories, health units, clinics, the Civil Defence College, and quarantine and immigration stations, and involved shipments to the Northwest Territories, Eastern and Western Arctic, United Kingdom and Continental Europe by boat, rail, air, snow-mobile, and even dog team.

The expansion in the volume of supplies was caused mainly by increased departmental facilities such as the new Virus Laboratory in Ottawa and five new Indian Health Services Nursing Stations at Pelican Narrows and Fort a la Corne in Saskatchewan, God's Lake Narrows and Split Lake in Manitoba, and at Sandy Lake in Ontario.

Research and testing of the Salk polio vaccine by the Virus Laboratory involved the importation by this division of several hundred Rhesus and Cynomolgus monkeys. This presented unusual problems as these monkeys have to be imported from India and the Philippines and are very susceptible to exposure, especially during the winter months.

An effort was made during the year to consolidate inventory and to set up standards and specifications on items for which no previous standards existed.

Approximately 13,500 requisitions were processed embracing almost every commodity and involving orders placed with manufacturers and suppliers in all parts of Canada and the United States and with other federal departments.

The division continued to operate and expand departmental stores in Ottawa and over 5,000 shipments were made from that source during the year.

## RESEARCH AND STATISTICS DIVISION

The Research and Statistics Division continued to collect, analyse and evaluate social and economic data concerned with health and welfare planning and program operation, and to develop methods to assist in solving technical and administrative problems. Advisory and consultant services were provided on request to other directorates and divisions of the department and to other government and non-government agencies; joint research projects were carried out in co-operation with other divisions.

English and French editions of a number of important reports were published during the year, including *Voluntary Medical Care Insurance*, an analysis of the operation of voluntary plans in Canada; the *Survey of Welfare Positions Report*, which embodied the major findings of the survey of welfare personnel carried out at the request of the National Conference on Social Work; the *Study of the Functions and Activities of Head Nurses in a General Hospital*, a report on the study carried out by the division in the series sponsored by the Canadian Nurses' Association; *Mothers' Allowances Legislation in Canada, 1955*; *Changes and Developments in Child Welfare Services in Canada 1949-53*; and *Mental Health Services in Canada*.

*Survey of Nursing Resources in Manitoba*, a report on the pilot nursing survey carried out in that province by civil defence authorities with the aid of the division, was prepared, in co-operation with the Civil Defence Health Planning Group, for departmental publication and a manual on the conduct of nursing surveys was written for the use of civil defence health authorities. Co-operation was continued with the Dominion Bureau of Statistics in the preparation of bulletins reporting on the Sickness Survey; the report on *Permanent Physical Disabilities*, prepared by the division, was published as one of this series of bulletins.



A national resurvey of physicians was completed and a comprehensive study was made of the Sick Mariners Program and a departmental report prepared. An active role continued to be played in the development of the Disability Allowances Program and a number of documents on health and hospital insurance were prepared.

## Health Problems

The division was concerned with a number of studies of health problems during the year. Co-operation with the Occupational Health and Epidemiology Divisions was continued in the survey being carried out for the International Joint Commission on health aspects of air pollution in the Detroit-Windsor area. A report was prepared for the Commission, based on preliminary analysis of data arising from the first eighteen months of the study and certain evaluation studies were also planned and carried out. The division continued its participation with the Dental Health Division in the various fluoridation surveys in which the department is concerned and a report, based on field studies, was prepared on the comparative efficiency of stannous and sodium fluorides in topical application to prevent dental caries.

The Special Committee of the Senate on the Traffic in Narcotic Drugs in Canada was assisted through the collection of a variety of relevant data and a study was made for the Narcotic Control Division of narcotic drug legislation in Canada. A review of criminal, mortality and other statistics relevant to the problem of alcoholism was carried out for the Chairman of the Manitoba Liquor Enquiry Commission. Staff members assisted in the preparation by departmental officers, under the direction of the Chief of the Epidemiology Division, of a report on trends in tuberculosis incidence and control from 1938 to 1953, designed to assist federal and provincial health authorities in evaluating the tuberculosis situation today; a comprehensive summary of tuberculosis services in Canada was also prepared for departmental use.

The division provided consultative services, including advice on study and survey plans, sample size, procedures for recording and tabulating observations and analyses of data on a number of projects, such as a study of etiologic factors in lung cancer and of the incidence of bronchiogenic carcinoma among uranium miners; an investigation of the relationship between tonsil operations and poliomyelitis paralysis; the feasibility of instituting an occupational morbidity reporting system; methods of determining trends in incidence of back injuries; certain aspects of the analyses of the National Height Weight Survey data and of the relation between nutrition and blindness; and the statistical analyses of a stillbirth and neonatal mortality project.

Review of health data from the Dominion Bureau of Statistics and other sources was continued. Questions dealt with during the year included particularly the incidence or prevalence of diseases and conditions or defects in Canada as a whole or in certain segments of the population. The building up of reference data on chronic illness and health problems of older people was continued. Enquiries were received respecting such diverse topics as the male-female ratio in prevalence of epilepsy, the incidence of leg fractures, data respecting industrial accidents and farm accidents, and the age distribution of accidental deaths. There were a number of questions respecting cancer, including its geographic distribution, and enquiries continued to be received respecting rural-urban health differentials.

## Health Services

Final sections of the comprehensive report, *Canada's Health Services* were largely completed in co-operation with provincial health authorities and it was anticipated that the work would be ready for publication by mid 1955.

To assist the government of Newfoundland the Research Division prepared a draft of that province's final Health Survey Report, which included comprehensive descrip-

tions of health and hospital services in the province. The draft report was based on the surveys carried out by different persons and agencies, including the Research Division, under the Health Survey Grant of the National Health Program.

A comprehensive report on health services and conditions in Canada was drawn up for the Pan American Sanitary Bureau; this material will be included in the Bureau's "Summary of Reports of Member States 1950 to 1953" so that complete and reasonably comparable data on all countries in the Americas will be included for the first time in the Bureau's reports.

A comprehensive report on health resources and expenditures in the Yukon and Northwest Territories was prepared for the Directorate of Indian Health Services and assistance was given to the directorate in its planning for the development of a northern health service.

Copies of the monograph *Mental Health Services in Canada*, published in July, were made available to delegates to the International Congress on Mental Health held in Toronto. This memorandum, which covered all aspects of mental health work in Canada, was written in collaboration with the Chief of the Mental Health Division. The director of the division and supervisor of the Health Services Section participated in the technical sessions on research at the International Conference.

A detailed investigation was carried out for the Quarantine, Immigration Medical and Sick Mariners Division of different aspects of the Sick Mariners Service and a departmental report prepared, describing the history of the program and programs in other countries and giving statistical summaries of services provided and an analysis of costs.

A comprehensive report on the relation between federal and provincial programs for health services and hospital and medical care was prepared for study by an inter-department committee.

Memoranda were prepared on health services and legislation, including studies of the hospital situation in Canada, for departmental use, and the division continued to keep WHO informed as to changes in health legislation in Canada.

Other health service projects carried out during the year included: preparation of a section of a manual being produced by the Canadian Public Health Association for the use of Sanitary Inspectors; preparation of a list of medical officers in health units and municipal health departments for the use of quarantine officers; a report on poliomyelitis services in Canada for the Dominion Council of Health; and assistance to other departments, agencies and persons in the preparation of articles on health matters.

Assistance continued to be given to the Health Grant Administration and chiefs of divisions seeking advice concerning projects submitted under the National Health Program.

## Health Methods

The division participated in the preliminary technical discussions concerning, and in the preparation of a statement of Canada's views and recommendations on, the review of the International Statistical Classification of Diseases, Injuries and Causes of Death at the international conference held in Paris in February 1955.

Assistance continued to be given to the Directorate of Indian Health Services in the development of a new statistical reporting system for hospital and other health facilities and conditions and a new Health and Treatment Services Reporting Form was devised in conjunction with the directorate. A reporting form was also prepared for the Indian Affairs Branch of the Department of Citizenship and Immigration, to be used in a survey of Indians discharged from tuberculosis sanatoria in an attempt to assess rehabilitation needs.

A small sample survey of medical examinations records was carried out for the Civil Aviation Medicine Division, to assist in obtaining certain anthropometric measurements needed for a cockpit visibility study.

A manual on the conduct of nursing surveys was prepared for the use of civil defence authorities. The manual, which covers all aspects of the development and carrying out of a survey of nursing personnel, was designed to provide uniformity between surveys in different provinces through use of a uniform questionnaire form and record procedures as well as to provide direction in the carrying out of the survey.

Members of the division continued to be called on to advise on a great variety of technical problems encountered in the work of other divisions.

## Health Care

The division worked closely with the Principal Medical Officer, Health Insurance Studies, in carrying out a number of studies of hospital and medical care for the use of the department and a number of memoranda were prepared for departmental officials on various aspects of health insurance.

*Voluntary Medical Care Insurance*, an analysis of the operation of the principal agencies which have been developed under voluntary auspices to offer medical care insurance on a non-profit basis, was published. A report on selected public medical and hospital care programs was prepared for publication and a third volume was commenced, dealing with plans offered by private insurance companies as well as non-profit plans.

The division was represented at the first Medical Care Conference held in Quebec in June 1954 and a paper, *Non-Profit Medical Care in Canada* was presented by a member of the staff; this paper was published in the Canadian Journal of Public Health in 1956.

In co-operating with the Department of Labour the results of a questionnaire concerning group hospital and medical care plans in industrial firms were compiled and interpreted. An extensive analysis of government and consumer expenditure on health services and resources was undertaken for the use of departmental officials.

New developments in health insurance in Australia and Sweden were studied and departmental reports prepared, including an article on the new Swedish system for "Canada's Health and Welfare". Netherlands authorities reviewed a draft bulletin on health insurance in that country which was being made ready for publication.

A member of the division visited the United Kingdom in the autumn of 1954 to study the National Hospital Service for a six week period, with particular reference to organization, administrative functions and responsibilities, financial and budgetary controls and procedures at the central, regional and local levels. Special attention was paid to methods of controlling demands for hospitalization, the development of outpatient diagnostic and consultant services, and to the use being made of hospital utilization and morbidity data.

At the request of the New Brunswick Medical Society the supervisor of the Social Security Section accompanied the Director of Health Services to New Brunswick to discuss problems concerning the development of voluntary health insurance in the maritimes. Members of the division were called on to discuss problems connected with hospital insurance with provincial officials on a number of occasions.

## Rehabilitation and Chronic Illness

The director continued to work with the National Co-ordinator and the National Advisory Committee on the Rehabilitation of Disabled Persons in matters relating to health and welfare aspects of Rehabilitation. As a member of the executive of the Com-



mittee he presented a paper at the Workshop on Rehabilitation held by the Canadian Conference of Social Work, and served as a member of the panel discussing rehabilitation of the disabled and disability allowances at the Northeast Conference of the American Public Welfare Association.

Study of rehabilitation and chronic illness services in Canada and other countries continued to be carried on in co-operation with departmental officers.

## **Welfare**

The division continued to carry out studies of welfare and related services. Information on welfare programs was provided on request to other departments, agencies, universities and to the United Nations, and liaison was maintained with officials of public and private agencies in Canada and to some extent in the United States.

In the field of family and child welfare, bulletins on *Changes and Developments in Child Welfare Services in Canada 1949-53* and *Mothers' Allowances Legislation in Canada, 1955* were released for distribution. Substantial progress was made on several other studies of Canadian services, notably on deserted wives and children's maintenance legislation, adoption, neglected and dependent children, and public assistance.

At the request of the Canadian Welfare Council the division undertook to study child welfare reporting, with particular attention to the varying concepts and definitions on which reporting is based and the problems these present for uniform reporting. This study, in which a considerable period will be required to define the nature and the scope of the problem, will be carried out in consultation with an advisory committee set up within the Family and Child Welfare Division of the Council. The division prepared memoranda and advised on research questions involving institutional care for children, services for unmarried mothers, social assistance and other matters.

The development of services for the aging, both in Canada and abroad, was under continuing study during the year, with particular attention to building up reference data on institutional care and housing, recreation and counselling, programs of home care and co-ordination of services. The division provided consultative services with regard to research projects in the field of aging to a number of organizations on request. A member of the staff visited Washington and New York to inquire into programs and research studies being developed in this field in the United States. The director of the division served as a member of the Canadian Welfare Council's Committee on the Role of the Council in Relation to the Needs of the Aged, on the Council's recently constituted Committee on Aging under the chairmanship of Senator Fergusson, on the Committee on Aging of the American Public Welfare Association, and on the Interdepartmental Committee on Employment Problems of the Older Worker. The supervisor of the Social Security Section and a staff member of the division were also active on a sub-committee established by the latter group to study the effects of private pension schemes on the employment and retention in employment of older workers.

Work continued on welfare services for special groups and the supervisor of the Welfare Section represented the department on the Canadian Welfare Council's Committee on the Welfare Needs of the Immigrant. The director and members of the division participated in the Canadian Conference on Social Work and the International Conference on Social Work, where the director served as resource person for Canada on social security matters.

A bulletin on *Activities of the Federal Government Related to Recreation* was released as a reference document for the Physical Fitness Division.

## **Income Maintenance**

The Division provided technical assistance in connection with various aspects of the new disability allowances program. Outlines of disability allowances schemes in five



countries were prepared and, in co-operation with officials of the department and of the Department of Labour and Veterans Affairs, a preliminary system for the recording of disabilities was adopted and preparations made for the setting up of a marginally punched card record system.

An extensive revision of *Expenditures and Related Data on Health and Social Welfare* was completed and reports prepared on government expenditures on health services, voluntary agency expenditures and expenditure data derived from the Canadian Sickness Survey.

The division was represented on an interdepartmental committee established by the Dominion Bureau of Statistics to set up and interpret the results of a survey of trusted pension plans and at the meetings of an interdepartmental subcommittee enquiring into the effect of pension plans on the employment and retention of older workers. Draft versions of a series of articles on characteristics of pension plans prepared by the Labour Department for publication in the Labour Gazette were reviewed.

Data concerning blind persons' legislation in a number of different countries were prepared for departmental officials and assistance was offered to other Divisions in carrying out studies dealing with projects such as the establishment of proof of age under the Old Age Security Program.

### Manpower Studies

Research was continued into the supply and distribution of health and welfare personnel, with special reference to physicians, dentists, nurses and social workers.

A national resurvey of physicians, the first comprehensive survey since the National Health Survey of 1943, was carried out by postcard questionnaire, with the co-operation of the Canadian Medical Association and l'Association des Médecins de Langue Française du Canada, and was designed to check the accuracy of the records of the Physicians Register as well as to provide information for the use of the medical associations, the Defence Medical and Dental Services Advisory Board, and for civil defence purposes. The survey was reported on in *Survey of Physicians in Canada, 1954*.

Study continued on the problems of securing personnel for welfare services in Canada. The *Report on the Survey of Welfare Positions* was published during the year. This survey which was carried out at the request of the National Conference on Personnel on Social Work, embodies major findings of the first Canadian survey of welfare personnel on a national scale. In addition to providing an examination of the growth of welfare positions and assessing the requirements for graduate social workers in public and voluntary agencies and institutions in Canada, the report analyzes the broad range of data secured in the survey on the characteristics of different fields of work and types of positions, the composition and training of welfare staff, salary relationships, and the structure and size of welfare agencies and institutions.

Subsequent to the publication of the report, special memoranda on various aspects of the findings were prepared for the Personnel Committee of the Canadian Welfare Council in their 1954-55 study of the implications of the findings, in which the director of the division and the supervisor of the Welfare Section participated. At the request of the Personnel Committee, a summary of the report, with some additional data, was prepared for use as a reference document at the sessions on "Staffing our Social Agencies" at the annual meeting of the Canadian Welfare Council and for later distribution with the Personnel Committee's Report on *The Implications of the Survey* when this is completed. Some assistance was also given, on request, to other groups studying the findings. Two articles were prepared for publication in the Canadian Welfare Council's *Concerning Families and Children* and several papers were presented on the subject to professional groups.

At the request of the Civil Defence Health Planning Group, the division assisted in planning a survey of nursing personnel in Nova Scotia. During the year the results of the Manitoba Survey were analyzed and a report entitled *Survey of Nursing Resources in Manitoba* was published by the department.

### Miscellaneous

A number of officials from provincial governments and other countries spent varying periods in the division to study different health and welfare problems; a research officer of the Newfoundland Department of Public Welfare spent an extended period with the division in the study of research techniques.

The Civil Service Commission was assisted in the drawing up of examinations for junior economists and candidates and of a schedule for assessing the relative responsibilities attached to different economist positions in social-economic fields.

Sections of the Canada Year Book and other official publications dealing with health, welfare and social security were prepared by the division as in other years. Articles were written for Canada's Health and Welfare on Planning for Older Persons in California, a United Nations' Study on the Adoption of Children, Rehabilitation in Australia, Old Age and Survivor's Insurance in the United States, the New National Sickness Insurance Program in Sweden and other subjects.

Assistance continued to be provided to private organizations and persons in the preparation of reports for publication related to the work of the department, and the division was represented on the editorial board of the Canadian Welfare Council's publication "Canadian Welfare".

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# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

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*Executive Assistant*, George M. Carty, B.A.

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G. D. W. Cameron, M.D., C.M., D.P.H., LL.D.

Deputy Minister of National Health and Welfare (Welfare)

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*Deputy Co-ordinator*, Maj. Gen. G. S. Hatton, C.B., O.B.E., D.S.O.

*Chief Administrative Officer*, M. P. Cawdron, M.A., B.Sc.

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RESEARCH DIVISION, *Chief*, J. W. Willard, Ph.D., M.A., M.P.A., A.M.

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 Birks Building, Sparks Street  
 Booth Building, Sparks Street  
 Garland Building, Queen Street  
 No. 3 Temporary Building, Wellington Street  
 Trafalgar Building, Queen Street  
 No. 7 Temporary Building, Green Island

**CIVIL DEFENCE COLLEGE**

ARNPRIOR, Ont.—P.O. Box 2050

**FAMILY ALLOWANCES AND OLD AGE SECURITY**

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CHARLOTTETOWN, P.E.I. ....	59 Queen Street
HALIFAX, N.S. ....	Industrial Building
FREDERICTON, N.B. ....	Federal Building
QUEBEC, Que. ....	51 Boulevard des Capucins
TORONTO, Ont. ....	122 Front Street West
WINNIPEG, Man. ....	138 Portage Ave. East
REGINA, Sask. ....	Dominion Government Building
EDMONTON, Alta. ....	10182 103rd Street
VICTORIA, B.C. ....	Federal Building

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OTTAWA, Ont. ....	Tunney's Pasture
HALIFAX, N.S. ....	Dominion Public Building
MONTREAL, Que. ....	397 Common Street
TORONTO, Ont. ....	27-39 St. Clair Ave. East
WINNIPEG, Man. ....	Aragon Building
VANCOUVER, B.C. ....	Federal Building

**FOOD AND DRUG OFFICES**

OTTAWA, Ont. ....	Tunney's Pasture
HALIFAX, N.S. ....	Dominion Public Building
CHARLOTTETOWN, P.E.I. ....	100 Fitzroy Street
SAINT JOHN, N.B. ....	250 Prince William Street
SYDNEY, N.S. ....	Naval Administration Building
ST. JOHN'S, Nfld. ....	T.A. & B. Society Building
QUEBEC, Que. ....	92 Dorchester Street, St. Roch
THREE RIVERS, Que. ....	Post Office Building
SHERBROOKE, Que. ....	Whiting Block
MONTREAL, Que. ....	379 Common Street
TORONTO, Ont. ....	27-39 St. Clair Ave. East
BELLEVILLE, Ont. ....	12 Bridge Street
HAMILTON, Ont. ....	42 James Street North
KITCHENER, Ont. ....	Dominion Public Building

LONDON, Ont. ....	Dominion Public Building
WINDSOR, Ont. ....	137 Ouellette Ave.
SUDBURY, Ont. ....	Federal Building
PORT ARTHUR, Ont. ....	33 Court Street South
WINNIPEG, Man. ....	Aragon Building
SASKATOON, Sask. ....	219-22nd Street East
REGINA, Sask. ....	Federal Building
CALGARY, Alta. ....	Customs Building
EDMONTON, Alta. ....	Post Office Building
KAMLOOPS, B.C. ....	345 Victoria Street
VANCOUVER, B.C. ....	Federal Building
VICTORIA, B.C. ....	805 Government Street

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MONCTON, N.B. ....	Moncton Airport.
MONTREAL, Que. ....	379 Common Street and Dorval Airport.
QUEBEC, Que. ....	Immigration Hospital, Quebec-West.
SAINT JOHN, N.B. ....	Pier 9, Immigration Building.
ST. JOHN'S, Nfld. ....	Marshall Building, Water Street, P.O. E5109.
STEPHENVILLE, Nfld. ....	Harmon Field Airport.
TORONTO, Ont. ....	737 Church Street and Malton Airport.
VANCOUVER, B.C. ....	Immigration Building, foot of Burrard St. and Sea Island Airport.
VICTORIA, B.C. ....	Immigration Building.

### Overseas

LONDON, England ....	61 Green Street, Mayfair, W.1.
BELFAST, North Ireland ....	65 Chichester Street.
GLASGOW, Scotland ....	18 Woodlands Terrace, C.3.
LIVERPOOL, England ....	34 Moorfields, Liverpool 1.
BRUSSELS, Belgium ....	230 rue Royale.
PARIS, France ....	38 Avenue de l'Opéra.
ROME, Italy ....	Via Nemorense, 90.
THE HAGUE, Holland ....	12 Carelvan Bijlandtlaan.
COPENHAGEN, Denmark ....	Vestagervej 5.
LINZ, Austria ....	Canadian Government Immigration Mission, Finanzegebaude, Ost.
KARLSRUHE, Germany ....	Canadian Government Immigration Mission, 11 Redtenbacherstrasse.
BREMEN, Germany ....	Canadian Government Immigration Mission, Bremen, Ueberseeheim, Neidersachsen- damm, Bremen-Neustadt.
HANOVER, Germany ....	10 Kirchroederstrasse.
BERLIN, Germany ....	Canadian Government Immigration Mission, Berlin-Zehlendorf, Berliner Str. 25.



MUNICH, Germany .....	Canadian Government Immigration Mission, Funk Kaserne, Block 1, Freimann- strasse 218, Meunchen-Freimann.
HAMBURG, Germany .....	Canadian Government Immigration Mission, Admiraltaetstrasse, 46.
ATHENS, Greece .....	18 Anagnostopoulov St. Kolonaki.

### SICK MARINERS CLINICS AND HOSPITALS

HALIFAX, N.S. ....	Immigration Building, Pier 21.
SYDNEY, N.S. ....	Marine Hospital.
SAINT JOHN, N.B. ....	Pier 9.
QUEBEC, Que. ....	Louise Basin.
MONTREAL, Que. ....	379 Common Street.
VANCOUVER, B.C. ....	Immigration Building.

### QUARANTINE STATIONS AND SUB-STATIONS

HALIFAX, N.S. ....	Pier 21 and Rockhead Hospital.
SAINT JOHN, N.B. ....	Pier 9 and Quarantine Hospital, Lancaster, N.B.
QUEBEC, Que. ....	Louise Basin and Quarantine Hospital, Quebec-West.
MONTREAL, Que. ....	379 Common Street and Dorval Airport.
VANCOUVER, B.C. ....	Immigration Building and Sea Island Airport.
VICTORIA, B.C. ....	William Head, B.C.
CANDER, Nfld. ....	Gander Airport.
THREE RIVERS, Que. ....	Sub-stations under direction of Quarantine Officer in Charge of Quebec. There is a Quarantine Officer appointed in each port.
SOREL, Que. ....	
RIMOUSKI, Que. ....	
PORT ALFRED, Que. ....	

### LABORATORIES OF HYGIENE

OTTAWA, Ont. ....	45 Spencer Street and Tunney's Pasture.
-------------------	---

### OCCUPATIONAL HEALTH LABORATORIES

OTTAWA, Ont. ....	200 Kent Street. Health Radiation Laboratory, Laurentian Building.
-------------------	--

### PUBLIC HEALTH ENGINEERING DISTRICT OFFICES

TRURO, N.S. ....	515 Prince Street.
MONCTON, N.B. ....	Post Office Building.
MONTREAL, Que. ....	379 Common Street.
ST. CATHARINES, Ont. ....	4th Floor, Dominion Building.
PORT ARTHUR, Ont. ....	Post Office Building.
WINNIPEG, Man. ....	Scientific Building, 425½ Portage Avenue.
EDMONTON, Alta. ....	Post Office Building.
VANCOUVER, B.C. ....	Begg Building, 110 West Georgia Street.
WILLIAM HEAD, B.C. ....	Quarantine Hospital.

## INDIAN HEALTH SERVICES FACILITIES

## Hospitals

Blood (Cardston), Alta.  
 Brandon, Man.  
 Charles Camsell (Edmonton), Alta.  
 Clearwater Lake, Man.  
 Coqualeetza (Sardis), B.C.  
 Dynevor (Selkirk), Man.  
 Fisher River (Hodgson), Man.  
 Fort Alexander (Pine Falls), Man.  
 Fort Qu'Appelle, Sask.  
 Gleichen, Alta.

Hobbema, Alta.  
 Lady Willingdon (Ohsweken, Brantford),  
 Ont.  
 Miller Bay, B.C.  
 Moose Factory, Ont.  
 Nanaimo, B.C.  
 North Battleford, Sask.  
 Norway House, Man.  
 Sioux Lookout, Ont.

## Clinics

Caughnawaga, Que.  
 Deseronto, Ont.  
 Duncan, B.C.  
 Fort Smith, N.W.T.  
 Hazelton, B.C.  
 Kamloops, B.C.

Prince Albert, Sask.  
 Samia, Ont.  
 Sydney, N.S.  
 The Pas, Man.  
 Vancouver, B.C.

## Nursing Stations

Bersimis, Que.  
 Big Trout Lake, Ont.  
 Cape Dorset, N.W.T.  
 Copper Mine, N.W.T.  
 Cross Lake, Man.  
 Driftpile, Alta.  
 Eskasoni, N.S.  
 Fort à la Corne, Sask.  
 Fort Chimo, Que.  
 Fort George, Que.  
 Fort Good Hope, N.W.T.  
 Fort McPherson, N.W.T.  
 Fort Norman, N.W.T.  
 Frobisher Bay (Proposed), N.W.T.  
 God's Lake Narrows, Man.  
 Goodfish Lake (Proposed), Alta.  
 Hay Lakes, Alta.  
 Island Lake, Man.  
 Lake la Ronge, Sask.

Little Grand Rapids (Proposed), Man.  
 Little Saskatchewan, Man.  
 Manitowaning, Ont.  
 Massett (Proposed) B.C.  
 Nelson House, Man.  
 Onion Lake, Sask.  
 Osnaburgh, Ont.  
 Oxford House, Man.  
 Peigan (Brocket), Alta.  
 Pelican Narrows (Proposed), Sask.  
 Pikangikum, Ont.  
 Port Harrison, Que.  
 Pukatawagan (Proposed), Man.  
 Rupert's House, Que.  
 Saddle Lake, Alta.  
 Sandy Lake (Proposed), Ont.  
 Split Lake (Proposed), Man.  
 St. Therese's Pt., Man.  
 Stoney (Morley), Man.

Lac Seul, Ont.  
 Lake Harbour, N.W.T.  
 Leask (Mistawassiss), Sask.

Tobique, N.B.  
 Landsdowne House, Ont.

### Health Centres

Aklavik, N.W.T.  
 Alert Bay, B.C.  
 Amos, Que.  
 Big Cove, N.B.  
 Broadview, Sask.  
 Calgary, Alta.  
 Carmacks (Seas.), Yukon  
 Chapleau, Ont.  
 Churchill (Proposed), Man.  
 Chesterfield, N.W.T.  
 Chippewa Hills, Ont.  
 Christian Island, Ont.  
 Fort Chipewyan, Alta.  
 Fort Francis, Ont.  
 Fort Rae, N.W.T.  
 Fort Resolution, N.W.T.  
 Fort Simpson, N.W.T.  
 Greenville, B.C.  
 High Prairie, Alta.  
 Kamsack, Sask.  
 Kenora, Ont.  
 Kingsclear, N.B.  
 Lennox Island, P.E.I.  
 Lillooet, B.C.  
 Maniwaki, Que.  
 Manowan (Seas.), Que.  
 Massett, B.C.  
 Meadow Lake, Sask.  
 Merritt, B.C.  
 Muncey, Ont.  
 Notre-Dame du Nord (Temiskaming) Que.  
 Mingan (Seas.), Que.

Mistassini (Seas.), Que.  
 Obedjiwan (Seas.), Que.  
 Oka, Que.  
 Pangnirtung, N.W.T.  
 Parry Sound, Ont.  
 Peterborough, Ont.  
 Pointe Bleue (Roberval), Que.  
 Portage la Prairie, Man.  
 Port Arthur, Ont.  
 Port Simpson, B.C.  
 Punnychy, Sask.  
 Rapid Lake (Seas.), Que.  
 Restigouche, Que.  
 Romaine (Proposed Seas.), Que.  
 Sandy Bay, Man.  
 Sault Ste. Marie, Ont.  
 Sept Iles, Que.  
 Shubenacadie, N.S.  
 St. Paul, Alta.  
 St. Regis, Que.  
 Sturgeon Falls, Ont.  
 Sydney, N.S.  
 Teslin (Seas.), Y.T.  
 Tofino, B.C.  
 Vanderhoof, H.C., B.C.  
 Vernon, B.C.  
 Walpole Island, Ont.  
 Waswanipi (Seas.), Que.  
 White Bear Lake (Carlyle), Sask. (Proposed)  
 Whitehorse, Y.T.  
 Williams Lake, B.C.

### Health Units

Cardston, Alta.  
 Edmonton, Alta.  
 Fisher River, Man.

Manitowaning, Ont.  
 Miller Bay, B.C.  
 Moose Factory, Ont.

Fort Alexander, Man.	North Battleford, Sask.
Fort Qu'Appelle, Sask.	Norway House, Man.
Gleichen, Alta.	Ohsweken, Ont.
Hobbema, Alta.	Sardis, B.C.

### Nurse—Dispenser

Coral Harbour, N.W.T.	Hanceyville, B.C.
Creekside, B.C.	Long Lac, Ont.
Fort Providence, N.W.T.	Lorette (Huron Village), Que.
Fort St. James, B.C.	Lower Post, N.W.T.

### Administrative Offices

Edmonton, Alta.	Ottawa, Ont.
Fort Qu'Appelle, Sask.	Quebec, Que.
Halifax, N.S.	Regina, Sask.
Miller Bay, B.C.	Sardis, B.C.
Nanaimo, B.C.	Sioux Lookout, Ont.
North Bay, Ont.	Vancouver, B.C.
Norway House, Man.	Winnipeg, Man.

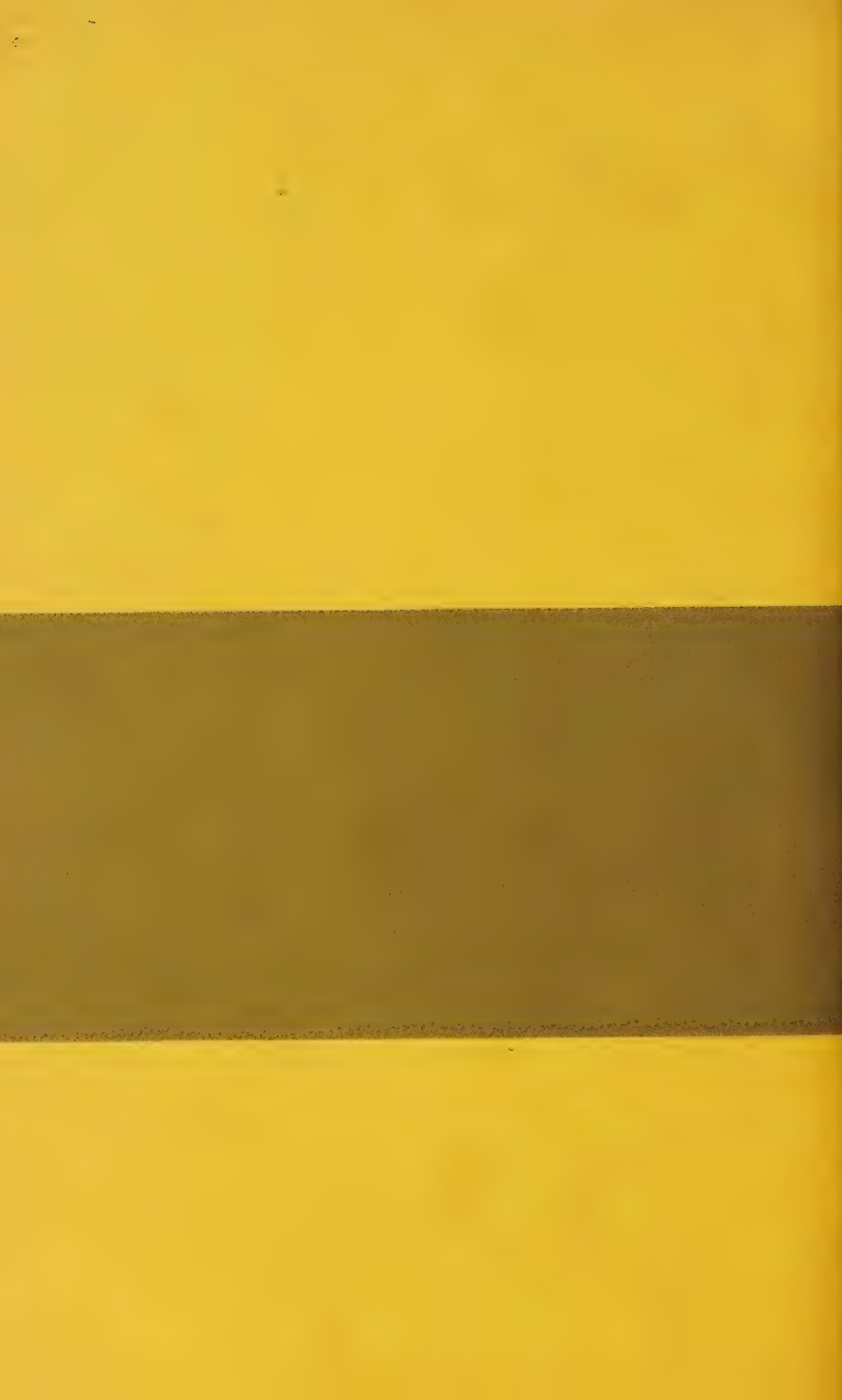




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and  
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**ANNUAL REPORT**  
for the fiscal year ended  
march 31, 1956

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CANADA

THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE

ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31

1956

Edmond Cloutier, C.M.G., O.A., D.S.P.,  
Queen's Printer and Controller of Stationery  
Ottawa, 1956





*To His Excellency the Right Honourable Vincent Massey, C.H., Governor General and  
Commander-in-Chief of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1956.

Respectfully submitted,

PAUL MARTIN,  
*Minister of National Health and Welfare.*



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*To the Honourable Paul Martin, Q.C., M.P., LL.M., LL.D., D.C.L., Minister of National Health and Welfare, Ottawa.*

SIR:

With the responsibilities of the Department of National Health and Welfare continuing to grow, the past year was marked by new or accelerated activities in a number of fields, all of which will have a significant and lasting effect upon the health and welfare of the Canadian people.

On January 26th the Prime Minister announced to the House of Commons the federal Government's proposal to the Provinces covering hospital insurance and laboratory, radiological and other diagnostic services. By the year-end two Provinces had indicated readiness to accept the federal proposal and elsewhere it was under study.

The year also saw the first widespread application of poliomyelitis vaccine which was released for provincial use following rigid safety and potency testing carried out by both the Connaught Laboratories and the department's Laboratory of Hygiene. From a trial procedure it became recognized as a useful public health measure, and the progressive extension of immunization programs gave promise of the effective control of paralytic poliomyelitis.

During the year the Department continued its role in the supervision of radioactive isotopes and gave advice on many health aspects of the use of radiation. In addition, resulting from the increasing interest in the biological effects of radiation, the Department initiated a program for studying the genetic and short-term effects of radiation and began routine analysis of radioactive strontium in food substances.

On the welfare side the year was most strikingly marked by the federal government's offer to share with the Provinces the cost of Unemployment Assistance. By the end of the year five Provinces had signed agreements. The same period saw the completion of the first full year's operation of the Disabled Persons Act.

The department's expenditures during 1955-56 rose to \$840.9 million, an increase of \$36.7 million over the previous year. The increase was almost entirely accounted for by higher statutory expenditures under the Family Allowances Act, the Old Age Security Act, and the Disabled Persons Act, and by an increase in payments under the National Health Program of \$1.9 million.

In concluding this letter of transmittal we again draw your attention to the generally high standard of competence and integrity of the staff. The degree to which the Department has been able to retain the services of certain key people in the face of increasing outside financial inducement reflects commendable loyalty to the public service. In other circumstances many of the achievements recorded in this report would not have been possible.

Respectfully submitted,

G. D. W. CAMERON,  
*Deputy Minister of National Health  
and Welfare (Health)*

G. F. DAVIDSON,  
*Deputy Minister of National Health  
and Welfare (Welfare)*

OTTAWA, Canada.





# HEALTH BRANCH

## Introduction

The reports of individual divisions of the Health Branch which follow cover the functions and activities of the branch in some detail. They also indicate into which of three broad categories they fall: administration of certain federal Acts; statutory responsibility for services; or financial, technical or advisory assistance to the Provinces in promoting a broad health program of national scope.

Since the significance of some constantly-recurring changes in emphasis is apt to be lost in a detailed presentation, it seems wise to review briefly in the introduction such subjects as seem particularly important or of special current interest.

### Poliomyelitis

Salk poliomyelitis vaccine was used extensively in Canada this year for the first time. The manner in which it was introduced was unique in the history of immunization programs and presented problems which compounded the difficulties ordinarily expected in such a procedure. Sound scientific practice requires careful and prolonged preliminary studies to identify immunologic and production problems and permit their resolution before a new preparation may be offered to the public. Additionally a sufficient store of knowledge is accumulated to enable broad immunization programs to go forward in orderly fashion. In the case of the Salk vaccine, however, the intense public interest which had been stimulated forced emphasis upon producing as much of the vaccine as possible for practical use. Problems which arose in relation to its immunologic properties, production and testing had to be dealt with on a day-to-day basis.

Throughout the spring and early summer of 1955 just over 1,850,000 doses of the vaccine were produced at the Connaught Medical Research Laboratories and by the end of June provincial immunization programs had generally been concluded. This early completion of the programs permitted an excellent opportunity for a broad study of the effectiveness of the vaccine, but the low incidence of paralytic poliomyelitis, the lowest in ten years, materially influenced the findings in a number of the provinces. While the results in such areas lacked the degree of significance that would have been desirable, in other Provinces in which the incidence of poliomyelitis approached the average for previous years, the findings were significant. With this favourable indication of the protective value of the vaccine, plans were made for the resumption of the polio immunization programs during the following year.

### Pollution and Environmental Health

Among the less dramatic but highly important activities of the Department are those in the fields of Public Health Engineering and Environmental Health. The rapid development of Canada's natural resources and industrial capacity has created tremendous problems in water supplies, sanitary services and the control of industrial and domestic wastes on a large scale.

Responsibility for administration of the Public Works Health Act involves the close scrutiny of numerous construction camps on such projects as the St. Lawrence Seaway, Gagetown and the Mid-Canada radar sites of the Department of National Defence. The establishment of new townsites and the relocation of some old ones in the rapidly devel-

oping north, such as Whitehorse and Aklavik, has required much careful study and consultation with other departments and agencies. Low temperature conditions characteristic of these regions preclude the use of many conventional methods and designs and have created entirely new and interesting problems in distribution, treatment and disposal facilities.

The growing menace of pollution of water supplies and atmosphere is causing great concern, not only in this country but throughout the western world. The demand for research and technical advisory service and assistance is constantly on the increase. The Department is not only keeping abreast of developments but is taking steps to build up a well-qualified staff and facilities capable of giving assistance and leadership in this important field at all levels of government.

Co-operation on an international basis is illustrated by the pollution studies carried on for some time in the Windsor-Detroit area under the general authority of the International Joint Commission.

### **Health Insurance**

A great deal of public interest in the subject of health insurance was shown during the past year. Discussions at the highest government levels required much detailed background information and for a great part of the year the Divisions of Health Insurance Studies and of Research and Statistics were completely occupied in its collection and arrangement in orderly and intelligible form. Information regarding existing programs, types of programs which might be proposed and estimates of costs of various proposals, required careful study and sometimes presentation in considerable detail.

While it would be quite impossible for the divisional reports to convey in any adequate way the extent of the research and study involved, it seems fair to state that the relatively clear picture of the major implications of a national scheme which evolved from the conferences would not otherwise have been possible.

Further consideration or adoption of some federally-assisted plan would, of course, have a number of implications for the future organization and administration of the Department. While much would depend on the type of proposal adopted it seems clear that the scope of the problem and the positions of the Department in the health field would involve it deeply in the provision of leadership, technical advice, consultation and assistance to the Provinces in performing a difficult task as effectively as possible.

### **National Conferences**

Two significant conferences were held under the auspices of the Department in the course of the year under review.

The Nutrition Conference was the second of its kind to be held in ten years. It attracted about 200 professional people from all parts of Canada for discussion of experience and exchange of information on nutritional subjects as applied to all the allied disciplines in the field of health.

The conference of federal and provincial Maternal and Child Health workers held early this year was the first of its kind under departmental auspices. The most active discussions centred on prenatal education, hospital care of the newborn and graduate training of nurses in maternal and newborn care.

These conferences were interesting and significant because they illustrated the increasing interest at the practical or field level in these important aspects of national health. They also represent the fruits of the long-term educational program of the Department in the respective fields and the effective role it can play in co-ordinating provincial programs.

## Financial Provision

A breakdown is appended of the total estimates for the Health Branch for the year under review as well as for the preceding year, for purposes of comparison.

The apparent reduction in the provision for co-operation with Provinces represents no essential change in services but is due to the recent change in government procedure under which certain capital expenditures are now provided for in the estimates of the Department of Public Works rather than in the estimates of this Department.

### NATIONAL HEALTH BRANCH ESTIMATES

For 1954-55 and 1955-56

	1954-55	Percentage	1955-56	Percentage
STATUTORY OBLIGATIONS.....	\$ 4,373,119	7.9	\$ 4,555,072	7.8
Quarantine and Leprosy.				
Immigration Medical Services.				
Sick Mariners Treatment Services.				
Public Health Engineering.				
Civil Service Health.				
Administration of the Food and Drugs and the Proprietary or Patent Medicine Acts.				
Administration of the Opium and Narcotic Drugs Act.				
CO-OPERATION WITH PROVINCES.....	2,124,185	3.8	1,912,517	3.2
Laboratory of Hygiene.				
Occupational Health.				
Epidemiology.				
Special Technical Services.				
Health Insurance Studies.				
MISCELLANEOUS GRANTS.....	168,850	0.3	177,450	0.3
Grants to Institutions Assisting Sailors.				
Grants to Health Organizations.				
GENERAL HEALTH GRANTS.....	31,750,001	57.2	33,750,000	57.7
INDIAN HEALTH SERVICES.....	16,920,538	30.5	17,159,026	29.3
NORTHERN HEALTH SERVICES.....	....	....	815,230	1.4
NATIONAL HEALTH BRANCH-ADMINISTRATION.	162,430	0.3	170,050	0.3
	<u>\$55,499,123</u>	<u>100%</u>	<u>\$58,539,345</u>	<u>100%</u>

(Totals include Supplementary Estimates and allotment from Finance General Salaries Vote).

## FOOD AND DRUGS

### FOOD AND DRUG DIRECTORATE

#### GENERAL

An important item in the program of the Food and Drug Directorate during the past year was the move of the headquarters staff in Ottawa to the new Food and Drug Building at Tunney's Pasture. This building houses the Food and Drug Directorate, including the Proprietary or Patent Medicine Division. This is the first time in its history of eighty-two years that the Food and Drug administration has had adequate quarters in Ottawa.

While the field of work of the Food and Drug Directorate remains the same, the emphasis on various problems changes as circumstances require. Since the new Food and

Drugs Act became effective in July 1954 more time and effort have been devoted to factory inspection in both the food and drug industries. This work is another phase of the endeavour to provide Canadians with pure, clean foods and safe drugs. It is the responsibility of manufacturers and others handling these commodities to supply foods free from filth and harmful substances and drugs that are properly controlled during their preparation. One of the jobs of the Directorate is to see that they do.

The use of many new insecticides and other products designed to prevent destruction of food has greatly expanded during the last ten years. While their use may be necessary or helpful to farmers, food processors and packers, their presence in or on food presents a health hazard to the public if measures are not taken to make sure that they are not on the food as consumed, or that, if some residue remains, it is there only in an amount that is not harmful. Manufacturers of such products are required to provide adequate information to permit the establishment of safe tolerances. The appropriate staff of the Laboratory Services Division examines all such information, makes its own analyses and tests to check the data supplied and to elucidate obscure points and then recommends a tolerance that is safe under conditions of use for which the product is to be sold. This tolerance is included in the Food and Drug Regulations.

Checking fruits, vegetables and other foods to make sure that the tolerance is not exceeded provides a large amount of work for regional and headquarters laboratories. This laboratory work involves the development and use of many new methods, both chemical and biological and this too, is a major undertaking.

The project or survey system of enforcement begun several years ago both in inspection and laboratory work is being developed and made more effective. Much less time than formerly is now devoted to "ad hoc" problems in the regions. It will not be possible to establish rigid programs to fully occupy regional or even headquarters staffs. Problems arise suddenly that must be dealt with promptly even though surveys or projects must be temporarily discontinued or minimized in doing so. Customs work and investigation of complaints also require a considerable amount of time and must not be delayed.

As in the past the staff of the Food and Drug Directorate has given assistance to other government departments and in some instances to international organizations interested in food and drug problems. Members of the Directorate take part in the scientific activities of the World Health Organization, the United Nations Narcotic Commission, the British Pharmacopoeia Commission, the United States Pharmacopoeial Commission, the United States Committee on the National Formulary, the Association of Official Agricultural Chemists, and other foreign or international bodies. Consultations have been held with the United States Food and Drug Administration, the United States Public Health Services and the British Ministries of Food and Health. There have been many consultations with, and work has been done for, the Departments of Agriculture, Fisheries, National Revenue, National Defence, Veterans Affairs and the Royal Canadian Mounted Police.

Meetings have been held of the Drug Advisory Committee, the Advisory Board on Proprietary and Patent Medicines and of a joint committee with members of the Technical Committee of the Canadian Pharmaceutical Manufacturers Association. There have been consultations by correspondence with some members of the Advisory Panel on Drugs.

### **Consumer Relations**

Since the purpose of the Food and Drugs Act is primarily consumer protection against health hazards and fraud in the advertising, sale and use of foods, drugs, cosmetics and medical devices, it is most important that consumers and the general public



be aware of the existence of this organization so that they may know where to bring their complaints and their problems. During the past year some progress was made in consumer relations. Members of regional offices and head office gave lectures to such groups as service organizations, home and school associations, professional and trade societies, made use of radio and television, and provided material for news reports and articles dealing with the Directorate's work.

Two pamphlets, one on prevention of accidental poisoning from chemical substances in the home and one on quackery, were produced and 79,165 copies of other pamphlets were distributed to the public through exhibitions, home economists, schools, universities and institutions. A booklet is being prepared by the medical section on the composition of poisonous substances in the home and their antidotes, for use by hospitals and clinics giving emergency treatment in poisoning cases. Displays depicting the work of the Directorate were shown at exhibitions, conventions and universities across Canada. It is planned to extend such activities when additional staff and facilities are available.

### Medical Section

The number of new drug submissions received from manufacturers during the year was 148, approximately the same as in the previous two years. During the same period 17 submissions were withdrawn by manufacturers when sufficient evidence as to safety or to satisfy other requirements of the Food and Drug regulations was not produced. Submissions were made for 16 other products which eventually were not classified as new drugs. Canadian clinicians were more active in the clinical evaluation of new drugs during the year, 78 such drugs having been imported into Canada for this purpose.

Work was begun on the compilation of a Poison Control Manual which is to be used in conjunction with the Canadian Paediatric Society in a Poison Control Program. The manual will contain a listing of the poisonous ingredients of all the proprietary or patent medicines and the everyday household chemicals on the market in Canada. The compilation will indicate the nature of the potentially toxic ingredient along with recommended therapeutic measures to be instituted.

The medical section also maintained liaison with the Canadian Medical Association, the Canadian Paediatrics Society, the American Medical Association, and the Medical Division of the United States Food and Drug Administration in relation to food and drug problems. Advice on medical subjects was given in connection with food and drug advertising and the registration of proprietary or patent medicines.

### Regions

The major share of enforcement work is carried out in the five regions into which Canada is divided for purposes of administering the Food and Drugs Act and the Proprietary or Patent Medicine Act. In addition to enforcement work the regional officers maintain close contacts with the trade and public and with other government departments both provincial and federal. They have collected information, carried out surveys, interviewed representatives of business, industry and the public and have kept headquarters informed of trends and developments of interest in administration. Like all other branches of the Directorate their function is educational as well as administrative and regulatory. A tabular summary of the regulatory work of the regions is included at the end of the Directorate's report.

Special training courses have been given to regional laboratory and inspection personnel covering new phases of their work, especially in the field of insecticide determinations, inspections of plant sanitation and inspection of drug plants.

In the regions a large part of the time devoted to domestic products was spent in surveys or projects such as inspections of food plant sanitation and drug plant control systems and analytical work on selected types of foods and drugs.

Addresses and lectures outlining the purpose and activities of the Food and Drug Directorate were given to special groups and to the general public at meetings and by radio or television.

A regional directors' conference was held in Ottawa to discuss policy and plan work for the succeeding year.

## INSPECTION SERVICES

Inspection work during the year followed a program in which priorities were given to food and drug plant sanitation and to determining the controls exercised by drug manufacturers over the safety and composition of their products. A considerable amount of the usual inspection work was also carried out.

### Food Plants

Two thousand three hundred visits were paid to food factories, some of these being repeat visits to the same plants. As an indication of the magnitude of the problem, there are an estimated ten thousand food manufacturing plants in Canada. Only a few major industries in which there are the greatest potential health hazards have been included in the program so far. Inspection has shown sanitation standards to vary widely among plants in a particular industry from quite clean and satisfactory to disgusting and dangerously dirty. Repeat visits following warnings have been encouraging in that, in a significant number of factories found to be unsatisfactory on the first visit, action has been taken by the management to clean up. This has been accomplished so far without use of the penalties provided by the Food and Drugs Act.

### Drug Plants

Following a preliminary survey of drug plants last year, priority for inspection and educational work was given to those companies manufacturing products for injection and to private formula manufacturers since, in these groups, there exists the greatest risks to health. Two hundred and fifty inspections were made in this program. Repeat visits indicated some improvement in factories where it was most desirable and steady progress was made in others. When dealing with these manufacturers, emphasis continues to be on the establishment of proper control procedures from receipt of raw materials to finished products so that the public may always have safe and effective drugs.

### Liaison with other agencies

Efforts have been made to keep other agencies interested in factory sanitation, especially provincial and municipal departments, fully informed of activities in this field. Many inspections have been carried out jointly with inspectors from these departments. This policy will prevent unnecessary duplication of work and will be much more effective in securing improvements.

### Legal Actions

While educational methods were used to secure compliance whenever the circumstances permitted, it was found necessary to prosecute in 58 cases and 21 seizures of goods were made.

## Labelling and Advertising

Special attention was given to the labelling and advertising of dietetic foods, since false and misleading advertising of these products has an especial health hazard. Other labelling and advertising received attention as usual both in the regions and at Ottawa. The headquarters staff examined 2,500 labels, 536 advertisements and packages and 19,300 radio and television commercials.

## Customs and Imports

Samples were taken from imports only when an inspector had reason to believe there was a violation of the law. The figures given in the appended tables are, therefore, not representative of the condition of all shipments arriving in Canada from abroad.

## Discussions with Public and Trade

Various aspects of enforcement were discussed with representatives of the consumers and the industries concerned. There were many hundreds of interviews with trade representatives to discuss the status of particular products.

## ADMINISTRATIVE SERVICES

Continuous attention was given to the improvement of mailing lists required for the distribution of trade information letters and other circulars. During the year 72,465 copies of 14 trade information letters were mailed. The index of registrations under the Proprietary or Patent Medicine Act was maintained. A catalogue of drug manufacturers and rulings on the labelling of foods and drugs were indexed for ready reference. Various reports were compiled and distributed.

The stenographic pool prepared much material, mostly on technical subjects, containing many tables. Control was exercised over about 4,500 stores items, including equipment, chemicals, stationery and furniture, and 1,100 requisitions for purchases were handled.

Clerical and stenographic services were supplied to Laboratory and Inspection Services Divisions and records of accounts, prosecutions and other enforcement actions, the preparation of the *Food and Drug News* and handling of amendments to regulations were continued as usual.

## PROPRIETARY OR PATENT MEDICINE DIVISION

This division administers the Proprietary or Patent Medicine Act which governs the manufacture and sale of secret formula prepared medicines offered to the public under proprietary or trade names. All preparations sold under this Act must be registered and are licensed on a yearly basis. During the year the registration of 3,269 preparations was reviewed. Two hundred and one new medicines were examined for registration; one hundred and thirty-nine were approved and sixty-two rejected.

Over 15,000 newspaper advertisements have been reviewed by this division. These are taken from twenty newspapers received daily from the main cities across Canada. Three hundred advertisements containing misrepresentations or exaggerated claims were brought to the attention of the manufacturer and have been corrected. In addition approximately 1,200 labels, wrappers and other advertisements were criticized. One thousand four hundred and twenty radio commercials were reviewed in cooperation with the Canadian Broadcasting Corporation which requires that radio announcements dealing with proprietary medicines be approved by the department before broadcasting.

Samples are secured on the open market by Food and Drug Inspectors and examined as to quality and quantity of drugs and labelling. Irregularities in composition, labelling, recommendations or methods of merchandising are reported to the headquarters of the department.

In 1954 the department, on the advice of the medical advisers in cooperation with the Advisory Board under The Proprietary or Patent Medicine Act and the Canadian Advisory Committee on Drugs, decided to refuse registration under the Act to any preparation containing strychnine. In the case of existing preparations which contained strychnine an opportunity was given to manufacturers to make appropriate changes in their formulae to omit strychnine, or to substitute therefor another non-toxic but suitable drug. This project has now been completed, and as of January 1, 1956 no proprietary or patent medicine containing strychnine has been distributed by manufacturers to wholesale or retail outlets.

Throughout the year manufacturers were interviewed to discuss problems arising out of present requirements, and through these meetings cooperation of the trade has been maintained, resulting in improved standards of proprietary medicines. Assistance was also extended to the federal, provincial and other officials concerned with the administration of laws and regulations otherwise relating to the sale of such products.

A meeting of the Proprietary or Patent Medicine Advisory Board was held during the year as usual. This board, consisting of eminent physicians and pharmacists, advises the department on specific matters concerning the administration of the Act.

## LABORATORY SERVICES

There are five regional laboratories and two district laboratories concerned mainly with enforcement work and secondly, with collaborative work and investigations. The district laboratories are used mainly for screening tests but they make final tests on a number of imports to shorten the time these products are detained at customs.

The chief concern of the central laboratory at headquarters is research and investigation and secondly, regulatory work and the review of information submitted by manufacturers for new drugs and insecticides.

Analyses of foods, drugs and cosmetics are made in the regional laboratories. The laboratory in Ottawa carries out chemical, physical and biological work necessary for investigations into new products, for the development of methods of analysis or assay and for collection of information regarding proposed standards for both food and drugs. Collaborative work on new methods is carried out between regional and headquarters laboratories. Special surveys and projects are assigned to regional laboratories including examinations and analyses of products sold locally or on a national scale. A constant review of the scientific literature pertaining to foods, drugs and cosmetics is done by the members of Laboratory Services. A continuing examination in the Laboratory Services of the requirements of the regulations keeps them in line with modern industrial practices and provides maximum protection for the consumers against any dangers inherent in new processes or the use of new substances.

It is to be noted that there is a trend in the cosmetic industry to add medicinal ingredients to cosmetics and to claim remedial properties for such products. If therapeutic claims are made for cosmetics they must be treated as drugs according to the definitions in the Food and Drugs Act.

## General

The physiological availability and disintegration time of coated tablets has been under continued investigation by the Pharmaceutical Chemistry and Vitamin and Nutrition Sections. As a result of findings reported last year, discussions have been held with the Technical Committee of the Canadian Pharmaceutical Manufacturers Asso-



ciation with a view to setting up regulations on the disintegration time of tablets. A method has been agreed upon for the determination of disintegration time. Consideration is now being given to writing a regulation based on the 60-minute time limit. Such a regulation will ensure that tablets are physiologically available.

It has been noted that, during the year, there has been an increasing number of tablets and capsules put on the market for which claims are made that the medication is released at various times from immediate release to 10 or 12 hours. Since no published data appears to be available on such preparations, consideration is being given to the development of procedures to determine the rate of release and physiological availability of medication in such preparations. Enteric coated tablets are also being given further study.

A continuation of the collaboration between the Organic Chemistry Section and the Food Chemistry Section on the methods for identifying the geographical origin of opium has strengthened the work of previous years on this important international problem. The methods devised and compiled in this laboratory have received recognition by the United Nations Committee dealing with narcotic drugs in international commerce.

Collaborative work between the Organic Chemistry and the Cosmetics and Alcoholic Beverages sections on constants and methods for characterization of essential oils is producing data long needed by those in control and regulatory work.

### Organic Chemistry Section

Research on methods of isolation, purification, identification, characterization and quantitative estimation of drugs, including alkaloids, narcotics, barbiturates and other drugs with addiction potentialities and toxic properties, was continued. A process for characterizing opium to determine its origin when seized in the illicit traffic has been worked out. This process combines United Nations methods for determining amounts of alkaloids present, analysis of the ash by spectrographic and spectrophotometric techniques. Data based on opiums of 14 different countries of origin have been assembled and placed on punched cards. Unknowns received in the laboratory are analysed and by means of the coded and sorted cards, origins are determined. The methods have been tested on 87 "unknowns" comprised of authentic, and seized samples, and new types of opium. Ninety-five percent of the samples were correctly identified as to their origin.

Advisory work on the international opium research program, cannabis and synthetic narcotic drug problems for the Canadian Representative on the United Nations Narcotic Drug Commission has been carried out for the past two years. A special brief entitled "Scientific research and its relation to enforcement of Narcotic Drug Law" was submitted to the Special Senate Committee on Traffic in Narcotic Drugs. At the invitation of the United Nations Commission on Narcotic Drugs, Canadian scientists in the Food and Drug Laboratories who had worked on the opium origin research submitted their expert opinions regarding the reliability of methods and certainty with which opium origins could be made, using these methods.

Special studies of chemical and physical methods for identifying *dl*-3-hydroxy-N-methyl morphinan and its *laevo* and *dextro* isomers and a number of barbiturates have been published.

Infrared, ultraviolet and X-ray data on drugs, foods and cosmetic products are being assembled in a comprehensive reference library of standards. Collections of infrared spectra of 70 barbiturates, 85 narcotics, ultraviolet spectra of 87 narcotics, and X-ray data on 83 narcotics have been supplied to the American Society for Testing Materials and incorporated into their punched card system. Some of this material has been collected with the assistance of other government laboratories.

In collaboration with other sections of the laboratory infrared spectroscopy has been applied to the following food and drug problems; detection of staphylococcus toxins, characterization of animal tissues and histological preparations; identifications of pharmaceutical products and food colours. Results of several of these investigations have been published.

### Pharmaceutical Chemistry Section

Again, during the past year, a considerable amount of time was devoted to the development and application of assays based on the principles of nonaqueous titrimetry. These techniques permit the direct analysis of many acids and bases which are too weak to titrate in water.

Despite the extensive amount of work which has been done by the many workers in the field of nonaqueous titrimetry, the salts of organic bases have presented considerable difficulty both from the standpoint of solubility in organic solvents as well as the shortage of suitable indicators. A method was developed in this laboratory that permitted direct analysis of many sulphates, nitrates and phosphates of organic bases, particularly those of alkaloids. The work has been published.

In addition to the foregoing, a new nonaqueous method was developed which permitted the direct titration of the barbiturates and their commercial products. Unlike other methods, this technique also permits direct assay of the barbiturates in coloured products as well as those combined with certain other drugs such as aminophylline. The results of the investigation have been accepted for publication.

Para-aminosalicylic acid and its salts have gained popularity in recent years as tuberculostatics. Investigation on these drugs resulted in the development of procedures permitting their direct titration in nonaqueous solvents. A number of commercial products were assayed and most of them were found to be satisfactory.

The analysis of quaternary ammonium compounds has for some time presented a serious problem. A method has been devised in this laboratory, whereby the compound could be assayed by ultra-violet spectrophotometry. The application of this method to commercial products showed all those tested to be satisfactory.

Collaborative work has been conducted at various times throughout the year for the Revision Committee of the United States Pharmacopeia, the British Pharmacopoeia Commission and the World Health Organization. The purpose of such work is to assist in the establishment of new standards for certain drugs as well as to help devise new methods of analysis for others.

Of the 122 pharmaceuticals which were analysed for enforcement purposes, 87 were satisfactory and 35 were unsatisfactory; 17 samples were analysed for the Department of National Defence, the Department of Veterans Affairs and the Ontario College of Pharmacy. Technical information was provided for several successful prosecutions.

### Food Chemistry Section

The increasing use of organic chemicals for protecting food crops from insect pests and fungi has indicated the urgent need for analytical methods capable of detecting minute residues in or upon foods. Available methods are being evaluated in order to select the most satisfactory procedures for future use. In addition to being highly sensitive, a method should also be free from errors caused by the presence of plant constituents or other pesticides. After extensive testing, the Schechter-Haller procedure has been chosen for the analysis of DDT. Methods for other insecticides and fungicides are currently being evaluated.

During 1955, a survey was initiated to ascertain the amounts of some of these residues on fruits. Samples at various stages of maturity were analysed for DDT, parathion and malathion the most widely used insecticides and also for captan, a prominent fungicide. Residues on ripe fruits were found to be within safe limits.

Maleic hydrazide is a chemical capable of preventing the sprouting of potatoes, onions and other vegetables during storage. Maleic hydrazide may not be used in Canada because doubt exists as to its safety. Since the existing procedure for estimating maleic hydrazide was unsatisfactory, a modification was developed which avoids the shortcomings of the original procedure. The new method, capable of detecting one part per million of maleic hydrazide has been employed satisfactorily for the analysis of potatoes and onions.

Butylated hydroxytoluene was recently approved as an antioxidant for use in fats. It was therefore necessary to develop analytical procedures capable of determining butylated hydroxytoluene in the presence of the other permitted antioxidants; propyl gallate, nordihydroguaiaretic acid, butylated hydroxyanisole and the tocopherols. Superheated steam distillation isolates butylated hydroxytoluene and butylated hydroxyanisole from the fat and these are estimated by differential chemical analysis. Propyl gallate and nordihydroguaiaretic acid are extracted from the fat in carbon tetrachloride solution using alcohol, followed by analysis with newly developed reagents. These new procedures are capable of analysing all permitted combinations of these antioxidants, in the amounts added to fats.

Polyoxyethylene emulsifying agents are added to foods to improve their texture and keeping quality. These compounds form a precipitate with phosphomolybdic acid but the procedure based upon weighing the amount of precipitate formed is tedious and subject to serious errors. A more convenient method, based upon new isolation procedure followed by the colorimetric determination of molybdenum in the precipitate, has been developed. This procedure has been widely used for the analysis of polyoxyethylene emulsifiers in bread. Polyoxyethylene emulsifiers have recently been proposed for improving the reconstitution of milk powders. Therefore, the colorimetric procedure has been extended to yield qualitative indications of the presence of polyoxyethylene emulsifiers in milk powders.

Zinc can be determined spectrographically in foods. Since many laboratories do not have a spectrograph, it was considered necessary to develop a chemical method for zinc. Since many metals interfere in the estimation of zinc, it was necessary to develop a procedure for isolating zinc from the ash of biological materials. A new colorimetric reagent, 4-chlororesorcinol, was also developed for estimating the amount of zinc present. This new procedure has been applied satisfactorily to the estimation of zinc in a number of food products.

Due to the toxic effects of consuming excessive amounts of fluoride, additional work has been done to improve existing analytical methods. A procedure for absorbing and concentrating fluoride on magnesium oxide has been improved. This technique greatly facilitates the analysis of very dilute fluoride solutions and in addition is valuable in separating fluoride from chloride, sulphate and other interfering ions. This technique has been used for estimating the fluoride content of a variety of food products.

The study of the composition of opium ash has been continued with the analysis of a further 75 samples. The accumulation of data on the composition of opium ash permits the extended use of this proven procedure for the identification of opium samples of unknown origin.

The significance of the sodium content of the diet upon the health of persons suffering from certain types of circulatory disorders is well established. A survey of 70 food samples, representing a wide variety of dietary products has been completed



in order to gather information on the sodium content of foods specially prepared for the use of persons on a sodium-restricted diet.

The composition of frozen meat pies has been the subject of an extensive survey. Since frozen meat pies are a new item on the Canadian market, it was felt necessary to gather data to form the basis for a standard, if required.

Additional work has been done to improve the methods for estimating the fruit content of strawberry and raspberry jams. The seed count, insoluble solids and potassium oxide procedures are being studied to determine whether these are reliable indices of fruit content.

### Microbiology Section

The main research interests have continued to be centered on the staphylococci. A comparison of some 400 strains of mannitol-positive micrococci isolated from dairy products and from hospital patients has shown that most isolates from the former source are of bovine origin whereas the phage group most commonly found among the clinical isolates was group III. Group IV of bovine origin occurred with a frequency of less than one percent among the hospital isolates, though members of this group were the most consistent and most potent producers of the A- and B- hemolysins and enterotoxin. It would seem, therefore, that a factor other than the production of these toxins determines the primary invasiveness of staphylococci to man.

Toxins were produced by representatives of six species of the genus *Micrococcus* (after Bergey), but only in small amounts by species other than *M. pyogenes*. Even though the production of coagulase was the more consistent indicator of enterotoxigenicity, the production of coagulase and phosphatase were not directly comparable in their indication of toxigenic strains and neither was absolute in relation to production of a specific toxin. Enterotoxin (cat-test) was produced by isolates of species other than *M. pyogenes* and by a small proportion of coagulase-negative strains of *M. pyogenes*. These facts should be appraised in making an analysis of the micrococci associated with foods suspect in food-poisoning.

The production of acid from glucose under anaerobic conditions did not seem to be a reliable indicator of the genus *Staphylococcus* as suggested by Evans and Niven.

The recognition of Staphylococcal enterotoxin by infrared spectrophotometry has been described. Further infrared work with specific cell fractions and culture extracts in relation to toxin production continues.

A statistical appraisal of a swab-method for the detection of specific bacterial contamination on factory surfaces has been completed.

A discursive treatment of the function and limitations of microbiological standards for foods based in part on data and experience from this laboratory has been prepared and published. The point of view of the Directorate and its collaborative objective in relation to control of sanitation in food factories was presented to eleven meetings of provincial agencies and industrial and professional groups. A country-wide survey of the problems and research needs of the food industry in relation to food preservation was made under the aegis of the Canadian Committee on Food Preservation.

The following publications from the Section either alone or in collaboration with other Sections appeared during the year: Studies with staphylococcal toxins. I. A reappraisal of the validity of the "kitten test" as an indication of staphylococcal enterotoxin. II. The specificity of enterotoxin. III. The application of paper ionophoresis to the resolution of components of toxic concentrates; The resistance of staphylococci and streptococci isolated from cheese to various antibiotics; Detection of staphylococcus enterotoxin by infrared spectrophotometry; Studies of middle-ear disease in rats. I. Age



of infection and infecting organisms; Microbiological standards for Foods: their function and limitations.

### Pharmacology and Toxicology Section

The testing of food colours for chronic toxicity was continued during the year. Studies on Light Green SF Yellowish, Oil Red XO and Orange SS were completed and the results of this investigation have been published. Investigations on Malachite Green, Nigrosine and New Coccine have also been completed. Currently under study are Amaranth, Tartrazine and Sunset Yellow. These investigations have shown that some of these colours should only be used in foods in very low concentrations.

It has been found in this laboratory that the granulopoiesis-depressant action of aminopyrine could be demonstrated in rabbits concurrently treated with Myleran. In these investigations the chemical determination of desoxyribonucleic acid (DNA) and ribonucleic acid (RNA) in bone marrow has provided evidence which supported the cytological findings on blood and bone marrow. Two other drugs which have been reported to cause agranulocytosis clinically are being studied; these are chloramphenicol and thiouracil. The results obtained so far seem to indicate that the procedure may be useful in screening new drugs for this potential hazard.

The bronchodilator activity of *dl*-epinephrine in terms of *l*-epinephrine has been found to be significantly different from the vasopressor activity. Studies are continuing in order to find out if the difference obtained between the two methods is constant. If this is the case, either method could be used in determining the bronchodilator activity of products containing *dl*-epinephrine.

A study of methods for the assay of reserpine was undertaken during the year. A satisfactory method was found and a survey of market products was made. The results of this investigation have been published.

The light scattering method for the determination of weight average molecular weights of plasma expanders has been the subject of much study. During the year an investigation of the relations between the weight average molecular weight of dextrans and the intrinsic viscosity was completed. The results of this investigation, together with an assessment of the reproducibility of the light scattering method have been published. A collaborative test of the reproducibility of this method between laboratories was initiated and agreement among three of five laboratories was found to be excellent. Further studies to elucidate the causes of disagreement with the other laboratories are contemplated. The unsuspected presence of small amounts of methanol has a profound effect on viscosity measurements on dextran solutions but was without marked influence in light scattering measurements. The results of a detailed study of these relations have been published.

Methods used to assess the molecular size distribution in polyvinylpyrrolidone plasma expanders have been under study. Good progress has been made in the development of a satisfactory procedure using the light scattering technique where special problems are encountered because of the ability of polyvinylpyrrolidone solution to fluoresce. A survey of market samples of polyvinylpyrrolidone plasma expanders has been made.

A series of experiments were initiated to determine the acute toxicity of muscle relaxants in rats pretreated with a few representative insecticides. It was found in these acute experiments that pretreatment with the insecticides augmented the toxicity of some of the muscle relaxants by as much as 189 percent. This work is continuing, along with a feeding experiment with one of the insecticides to determine whether chronic exposure to this insecticide will enhance the toxicity of muscle relaxants.

A satisfactory biological method has been worked out for the assay of adrenolytic activity of ergot alkaloids in some pharmaceutical preparations.

### Biometrics Section

A replacement for the biometrician heading the Biometrics Section was obtained in November, 1955. The Section is being re-organized to contain consulting services on methods and applications of statistics in addition to the development of statistical theory dealing with specific problems of the Directorate. Attention to immediate problems coming to the Section has allowed little time to reduce the backlog accumulated when no statistician was available.

Most collaborative studies to date have been with the Food Chemistry Section. A designed sampling experiment to test agreement between regional laboratories for the examination of cacao beans was carried out. Standard methods of identification of insect damage, parts and filth, have been established and a modification recommended to stabilize mould scoring between laboratories. An experiment designed to locate the point of deviation in method of analysis for the determination of insoluble solids in jams was carried out, resulting in a modification of the procedure. A pilot study on slack fill in cardboard base, paper-wrapped candy bars, carried out in the Biometric Section, established that neither volume nor area is a satisfactory measure but linear measurements on the three dimensions indicate distinct overages. The Toronto Regional Laboratory carried out an experiment specifically designed to test the accuracy and precision of the Howard Cell mould count method for tomato products. Results indicate that the work of examination may be reduced by employing two experienced analysts as checks, hence requiring only a single determination of duplicate cells per analyst per sample.

A study of the relationship between single and multiple tablet weighings and assay for the Pharmaceutical Chemistry Section has begun.

The results of a series of chronic toxicity experiments are being studied preparatory to devising experimental designs applicable to long-term experiments of this type.

An experimental design was drawn up for a factorial diet test on lysine for the Vitamin Section.

Complete statistical analysis was carried out on a laboratory collaborative ephedrine recovery experiment for the Pharmaceutical Chemistry Section.

Analysis of the white cell counts of rats with middle ear disease, for the Animal Pathology Section, indicated significant deviation from the norm for the diseased rats, the late stages of disease being more variable. The blood of all, rather than a sample, of treated and untreated rats in an experiment must be examined as analysis indicated extreme variation of the measurement of a specific type of blood cell.

Analysis of ascorbic acid content of samples of the 1955 pack of tomato juice showed a mean content at least as good as minimum requirements.

Two manuscripts were reviewed for appropriateness of phrasing when quoting statistical results and the statistics supporting one new drug were examined. Advice on six specific applications of analysis of variance was given to the Vitamin Section.

An acceptable Winton Lead Number for a given percentage of vanillin in vanilla extract was established and the size of sample required for the percentage of mineral oil on raisins determined. Graphical procedures for illustrating vitamin content of enriched flours were outlined.

Methods of fitting a straight line when both variables are subject to experimental error was examined for the Vitamin Section together with the definition of terms in an error of potency determination equation. Control chart bounds for 2 x 2 point assays are under study for the Pharmacology and Toxicology Section. The new Duncan range test for grouping means that do not differ significantly has been introduced wherever applicable.

A series of papers outlining the practical applications of sampling methods and statistical analysis is being prepared to assist Laboratory staff and Inspection Services in effective data collection and presentation. The first of these deals with the use of random numbers to guide the selection of samples for examination from a lot and for the arrangement of experimental designs. Examples will be given for all sections of the Directorate together with short-cuts and ways of finding random numbers when no tables are available.

### Physiology and Hormones Section

The relative potency of various adrenal corticoids was determined by the thymus involution method of assay and the results of this investigation were published. A study of the thymolytic action of topically-applied ointments containing either hydrocortisone or 9- $\alpha$ -fluorohydrocortisone indicated that these steroids were absorbed through the skin and exerted a systemic as well as a local effect. The action of salicylate and related compounds on the thymus gland of the weanling rat has been considered. The results so far suggest that only those compounds possessing anti-inflammatory activity cause thymic atrophy. Paper chromatographic techniques have been employed to separate, identify and estimate adrenal cortical steroids. A method based on the reduction of ferricyanide by the  $\alpha$ -ketolic side chain, was developed for the determination of corticoids in pharmaceutical preparations.

The procedure using thymus atrophy as the response was found to be satisfactory for the bioassay of long-acting corticotrophin preparations containing zinc as the retarding agent.

Methods for the detection of estrogenic residues in poultry and animal tissues have received further study. Both 21-day old female rats and adult ovariectomized mice have been used as the test animals. The material under investigation has been administered both orally and parenterally. The assay procedures employing the uterine weight response, were capable of detecting as little as five parts per billion of diethylstilbestrol in the tissue. Chemical methods for the determination of diethylstilbestrol in animal feeds as well as in pharmaceuticals have been studied extensively. A project was initiated to consider the effect of diethylstilbestrol on the body composition of chickens and rabbits. The administration of this estrogen increased the fat content of the chickens but did not have a significant effect on the amount of moisture in the meat of either of these species. Diethylstilbestrol monoglucuronide was isolated from the urine of rabbits given large oral doses of the estrogen. Methods for the isolation and purification of this metabolite have included solvent partitioning as well as chromatographic separation both on paper and columns.

An identity test for methyltestosterone was worked out using an antimony trichloride reagent. An assay procedure was developed for the determination of testosterone and progesterone. This method is based on the chromogen produced by the 2,4-dinitrophenylhydrazones of the respective steroids. Separation of mixtures of testosterone, progesterone and estrogens has been accomplished by paper chromatography and in some cases by paper electrophoresis.

The collaborative assay to establish the potency of the Fourth International Insulin Standard was completed. The value obtained by the mouse convulsion method did not differ significantly from that obtained by pooling the results of the collaborating laboratories.

The bioassay procedure employed for determining the LD<sub>50</sub> of shellfish extracts was published. A collaborative assay is under way to measure the toxicity of the purified shellfish poison.

Electrophoretic patterns were obtained for the serum proteins of fifteen species of animals.



## Animal Pathology Section

Eight thousand nine hundred and twenty-nine sections of tissue were examined microscopically during the year. The tissues were principally from animals on feeding trials of food colours, agranulocytosis-producing drugs, iron and calcium trials, tissue culture specimens, and middle and inner ear specimens. Unusual specimens submitted for histological examination and identification included flies, chicken skin and muscle samples. Several tumors were identified for the Occupational Health Laboratories. The Department of Fisheries submitted several samples of fish for examination of minute black specks contained in the flesh. The specks were identified as parasites surrounded by melanin pigment. Necropsies were performed on 186 animals. Bone marrow examination was made on 60 specimens from rabbits on agranulocytosis-producing drugs with over 100,000 marrow cells being identified and grouped.

Fifty samples of human fat were examined for plasmalogen. This work is being carried out in an attempt to determine the possibility of an existing correlation between estrogen, plasmalogen and atherosclerosis.

An oil granuloma was submitted by the Ottawa General Hospital for recovery and identification of the oil. In collaboration with the Organic Chemistry section, isolation and positive identification of the sample was made.

Collaborative studies with the Ottawa University on cerebellar agenesis in cats are continuing.

Facilities have been made available in this section for routine blood examination of individuals who are working with the X-ray machine and are being subjected to possible excessive X-ray radiation.

A program of preventative vaccination against the important infectious diseases of dogs and cats has been established for animals entering the colony. Observation of strict isolation procedures along with the prescribed course of preventative vaccination should keep these diseases under control. Disease outbreaks encountered in the animal colony during the year were controlled with minimal losses.

The X-ray method of diagnosing middle ear disease developed in this laboratory has been applied successfully as a control method for middle ear disease. There has been a reduction in the incidence of middle ear disease in the last year from over 90 percent of the animals affected to less than four percent.

In addition to the reduction of middle ear disease there has been a corresponding reduction in cannibalism, in the death rate from birth to weaning, and in deaths due to pneumonia. All these factors are attributed to the reduction in the number of animals affected with middle ear disease.

During the year 16,000 rats and 3,000 mice were raised and numerous other animals cared for. The new Food and Drug Building has housed the rat and mouse colonies since June 1955, many months in advance of the occupation of the building by the laboratory and office personnel. The mortality rate prior to 1954 in the rat colony was about 12 percent but the improved breeding and housing facilities available in the new building and the isolation program feasible there has reduced it to one percent in 1955.

## Cosmetics and Alcoholic Beverages Section

*Cosmetics.* In collaboration with Inspection Services many samples of cosmetics were reviewed as regards composition and label claims. The use of several more or less new cosmetic ingredients, having more definitely active properties, is fore-shadowed.



In collaboration with the Organic Chemistry Section and others a paper on "The Physiochemical Characterization of Essential Oil Constituents and their Derivatives by Modern Instrumentation Techniques" has been prepared and will be published shortly. Ultraviolet, infrared and Raman spectra are presented with other data. The preparation of the purified, dust-free samples was carried out by this Section.

*Alcoholic Beverages.* Vodkas of domestic manufacture were placed on the market during the year. Although essentially highly purified alcohol, different vodkas vary slightly, particularly with regard to after-taste. This led to a preliminary attempt to find a physical basis for these differences. They are readily detectable by means of the ultraviolet absorption curves of the samples, but as the "impurities" exist only in parts per million, their determination by chemical means offers difficulties.

The removal of traces of iron and copper from wines was the subject of a fairly extensive review published by the Section in August, 1955. These "trace" metals are troublesome as they cause the wine to become cloudy on storage. In Canada the subject is of less interest than formerly owing to the replacement of iron and copper equipment in the winery by stainless steel.

The proposed use of the antibiotic polymyxin in brewing practice was reviewed. The production of a beer suitable "for low sugar diets" was discussed with interested parties. Such a beer would have an "extract" much below the minimum required by the regulation. It was decided to defer action until some public demand had arisen.

*Food Colours.* The examination and certification of food colours continued. Imports of colours from the United Kingdom showed a marked increase over the previous year. These colours were almost all of high quality and purity. Satisfactory methods of separating mixtures of colours and of separating colours from other material were developed, using a chromatographic column technique. The column was found to be superior to techniques using paper and to electrophoresis.

Considerable numbers of miscellaneous samples (confectionery, cake glazes, coloured paper in contact with foods, etc.) were examined during the year for violations of the Food and Drugs Act.

### **Vitamin and Nutrition Section**

A continuation of the studies on the utilization of iron in flour by anemic rats has shown that high levels of calcium and low levels of iron in the diet result in lower liver iron values and higher heart weights than the controls. It has been shown also that the presence of two sodium phosphates in the diet did not result in reduced liver iron values. The level of bone meal in commercial enriched flour had no significant effect on such criteria. These results are consistent with reports regarding the effect of calcium and phosphorus on hemoglobin regeneration. Aureomycin has been found to speed up the regeneration of hemoglobin in anemic rats, possibly by increasing the amount of food consumed by the aureomycin-treated rats.

During the year much interest has been focussed on the possible need for the enrichment of cereal foods with lysine and other amino acids. Accordingly, studies with rats have been initiated to evaluate the importance and need for such additions to cereals for child feeding. Preliminary results suggest that lysine additions do not show as great effects when fed with milk diets. Obviously the value of additional amino acids should be judged in the light of the diet as a whole.

In collaboration with the National Research Council further studies on the nutritive value of fat have reaffirmed the observation that a mixture, similar in its proportion of saturated and unsaturated fatty acids to body fat, produces faster growth than other mixtures. The source of the fat does not seem to be of importance. The essential fatty

acid, linoleic, was found to depress the growth of rats when it comprised 60 percent of the unsaturated fatty acids of the diet. Levels of linoleic acid as low as ten percent of the diet produced satisfactory growth.

In a survey of current market samples of vitamin A products, neovitamin A was found to comprise about 20 percent of the total vitamin A activity. Since this isomer and other isomers are known to affect both the biological, chemical and physical assays for vitamin A, an investigation was made of their effects. Relative to all *trans*-vitamin A, the biological potency of neo-vitamin A was 70 percent and that of 6 *cis*- and 2,6-di-*cis*-vitamin A were about 20 percent. Vitamin A palmitate, alcohol and aldehyde have been found to have biological potencies almost identical to that of vitamin A acetate. Vitamin A acid was found to be virtually without biological activity.

Studies have continued on the chemical estimation of B vitamins. Proposed changes in the regulations permitting the use of folic acid in products advertised to the general public will undoubtedly result in its wider use. A simplified spectrophotometric procedure for folic acid in relatively high concentrations has been developed and attempts have been made to remove substances such as iron and liver concentrates which interfere with its colorimetric assay. The need for precise control of pH, time, and temperature in the colorimetric determination of pyridoxine has been demonstrated.

The isotope dilution procedure for vitamin B<sub>12</sub> using C<sub>60</sub> is being subjected to collaborative assay and compared with the microbiological assay. This laboratory is represented on the joint U.S.P.—N.F. Panel which is conducting this study. The isotope assay has the advantage of distinguishing between cyanocobalamin and the physiologically inactive pseudo forms which may be present in some vitamin B<sub>12</sub> preparations.

Submissions of hematological data on vitamin B<sub>12</sub> with intrinsic factor concentrate have been reviewed for compliance with the requirements of the Food and Drug Regulations. A procedure has been developed for assessing the magnitude of the hematological responses on a quantitative basis. This has aided greatly in determining the adequacy of borderline responses and has been found to be useful in making comparisons with the new procedures using labelled vitamin B<sub>12</sub>.

The *Escherichia coli* 113-3 method for the assay of vitamin B<sub>12</sub>, with the solution *meta*-bisulphite extraction of samples, has proved to be an effective method for the rapid "screening" of multi-vitamin products. The method is now used by the regional laboratories. Products found to be below labelled claim by this screening method are re-assayed by the official *L. leichmannii* procedure. The study concerning the inhibitory effect of thiamine and other compounds in the response of *E. coli* 113-3 to vitamin B<sub>12</sub> has been continued. It was found that the inhibitory effect of thiamine was directly related to the degree of aeration; thiamine apparently raised the requirement of vitamin B<sub>12</sub> in aerobic conditions. Cystine also proved to be inhibitory but the inhibition was partially reversed by thiamine or pantothenate. Cystine apparently interfered with either the synthesis or the utilization of pantothenate.

The metabolic interrelationship between vitamins as growth factors was studied with *L. leichmannii* 313, the test organism in the U.S.P. vitamin B<sub>12</sub> assay. Evidence of an antagonistic interrelationship between folic acid and pantothenic acid and between folic acid and vitamin B<sub>12</sub> was obtained. When suboptimal amounts of folic acid were present, high levels of either pantothenic acid or vitamin B<sub>12</sub> inhibited growth, suggesting that where these vitamins are essential for growth, the ratio of their concentrations may be more important in determining growth than their absolute amounts.

Ten papers have been published by members of this laboratory in the last year. In addition, a chapter for "Remington's Practice of Pharmacy" has been written on "Amino Acids and Proteins".

TABLE 1

(Food and Drug Directorate)

DRUGS EXAMINED

From: April 1, 1955 to March 31, 1956

Laboratory	Domestic				Imports			
	Samples	Adulterated	Misbranded	Other Infractions	Shipments	Adulterated	Misbranded	Other Infractions
Halifax.....	152	.....	.....	100	285	.....	.....	270
Montreal.....	392	.....	.....	298	5,836	.....	.....	390
Ottawa.....	342	36	91	.....	1	.....	.....	.....
Toronto.....	730	70	274	1	454	37	339	57
Winnipeg.....	45	8	15	4	483	4	184	382
Vancouver.....	1,137	.....	.....	604	216	.....	.....	27
Totals.....	2,798	114	380	1,007	7,275	41	523	1,126

TABLE 2  
(Food and Drug Directorate)  
EXAMINATION OF DOMESTIC FOODS  
From: April 1, 1955 to March 31, 1956

	LABORATORIES						Adult- erated	Mis- branded	Other Infra- ctions	Totals
	Hali- fax	Mont- real	Ot- tawa	To- ronto	Win- nipeg	Van- couver				
Alimentary Pastes.....	3		1	13			3		3	17
Baking Powder, Leavening Agents or Chemicals.....	2	12	1	1	1	25	1	1	8	42
Bakery Products—Cakes, Pastry, Beverage & Beverage Concen- trates.....	13		15	124	20	9	8	20	11	181
Bread, Flour & Cereals.....	134	178	16	29	195	74	20	13	94	626
Breakfast Foods.....	68	27	15	106	504	4	124	132	63	724
Confectionery.....				2	2	1			1	5
Dairy Products.....	14		3	62	13	15	12		17	107
Dessert Powders & Mixes.....	255	5,664	73	179	197	135	118	7	802	6,503
Eggs & Egg Products.....	6	3	7	57	3	2	4		3	78
Fish & Fish Products.....		1							1	1
Food Colours & Flavours.....	105	20	7	39	75	53	2		29	299
Foods, Oriental.....	49	11	1	31	1	110	12	3	62	203
Fruits, Fresh.....	1								1	1
Fruits, Canned.....					1					1
Fruits, Dried.....	20			2,176	12	151	4		10	2,359
Fruits, Glazed or Candied.....	6	1	3	6	50		5	19	2	66
Gelatin.....						10				10
Honey & Honey Products.....	3		1	1	2	3	3	1	3	10
Jams & Jellies.....	4	163	21	377	21	119	78		97	705
Juice & Syrups.....	41		3	751	272	64	55	15	53	1,131
Lard & Shortening.....	7		1		1	30	1		3	39
Liquors, Distilled & Fermented.....	38				3	10			9	51
Meat & Meat Products.....	219	197	78	222	195	370	89	8	140	1,281
Nuts.....	3		1	69	2	1	4		1	76
Oils.....	17		14	2	1		2	1		34
Pickles.....			1	4						5
Preservatives.....	1			3		1			1	5
Salad Dressings, Sandwich Spreads & Other Condiments..	9	9	30	626	10	52	36	10	21	736
Soup & Soup Mixes.....	7		3	58			1		6	68
Spices.....	6	136	1	3	7		1	1	27	153
Sugar & Substitutes.....	2			4					2	6
Sweeteners, Artificial.....				2			1	2		2
Syrups & Molasses.....	9		1	1	14	11	7	2	11	36
Vegetables, Canned.....	8			462	29	42	20		6	541
Vegetables, Dried.....	2	1	1	5	2	2	2		2	13
Vegetables, Fresh.....						1			1	1
Vegetables, Frozen.....				10						10
Vinegar.....	1				39		2	3	1	40
Water.....	10					173				183
Miscellaneous.....	178		5	14	9	28	7	3	136	234
Dairy Products (Dairy Division)				498			363			498
Grand Totals.....	1,241	6,423	303	5,937	1,681	1,496	985	241	1,626	17,031



TABLE 3  
(Food and Drug Directorate)  
EXAMINATION OF IMPORTED FOODS  
From: April 1, 1955 to March 31, 1956

	LABORATORIES						Adult- erated	Mis- branded	Other Infrac- tions	Totals
	Hali- fax	Mont- real	Ot- tawa	To- ronto	Win- nipeg	Van- couver				
Alimentary Pastes.....					1					1
Baking Powder, Leavening Agents or Chemicals.....	5			1						6
Bakery Products—Cakes, Pastry, Beverage & Beverage Concen- trates.....	57	1		55	32	10	5	12	17	155
Bread, Flour & Cereals.....	89	15		40	78	34	4	13	17	256
Breakfast Foods.....	4			3	20	1	7	5	1	28
Confectionery.....						3			3	3
Dairy Products.....	266	71		185	206	165	31	18	149	893
Dessert Powders & Mixes.....	14	4		38	1	64	11	16	18	121
Eggs & Egg Products.....				13		1	2	3		14
Fish & Fish Products.....						1			1	1
Food Colours & Flavours.....	13	4		15	1	22	9		20	55
Foods, Oriental.....	1	2		27	14		14	15	1	44
Fruits, Fresh.....	1								1	1
Fruits, Canned.....				2			2			2
Fruits, Dried.....		4				3				7
Fruits, Glazed or Candied.....	1,339	749		329	892	804	5	1	301	4,113
Gelatin.....	16			1		9		1		26
Honey & Honey Products.....				8		10	1			18
Jams & Jellies.....				1		13		1	2	14
Juice & Syrups.....				3		36	1	2	6	39
Lard & Shortening.....	108	4		5	6	39	1	5	44	162
Liquors, Distilled & Fermented.....	2	5		2				1	2	9
Meat & Meat Products.....	1									1
Nuts.....	104			24	6	327	3		38	461
Oils.....	840	2,912		558	883	1,397	2		333	6,590
Pickles.....	5	46		3	1	5		1	4	60
Preservatives.....						1			1	1
Salad Dressings, Sandwich Spreads & Other Condiments.....						1			1	1
Soups and Soup Mixes.....	3	1		12		5	1	2	4	21
Spices.....	5				1	3		1	1	9
Sugar and Substitutes.....	208	662		21	122	143	1	5	40	1,156
Sweeteners, Artificial.....	2			3						5
Syrups and Molasses.....				1				1		1
Vegetables, Canned.....	218	16		1		1		1	2	236
Vegetables, Dried.....				306		12		1	1	318
Vegetables, Fresh.....	54	1		5	3	23		3	5	86
Vinegar.....				1			1			1
Water.....	36	38		2		6		1	2	82
Miscellaneous.....	69	22		8	13	4	9	5	44	116
Grand Totals.....	3,460	4,557		1,673	2,280	3,143	110	114	1,059	15,113

## NARCOTIC CONTROL DIVISION

### General

During the year Canadian requirements of narcotic supplies for medical use were met without difficulty. This goal was achieved by the close co-operation of licensed dealers in anticipating, with a reasonable degree of accuracy, changing medical and scientific trends in the use of narcotics. The importance of this work will be more readily understood when it is realized that Canada neither produces nor manufactures narcotics and, as a result, all her needs must be imported.

The effect of amended legislation under the Opium and Narcotic Drug Act which came into force during 1954 became more apparent in 1955. Severe penalties were provided for those convicted of trafficking in narcotics or being found in possession of drugs for the purpose of trafficking, and the Courts availed themselves of the opportunity of imposing lengthier sentences upon individuals found active in the illicit traffic. This is evidenced by the fact that, of the 365 sentences awarded under the Act during the calendar year 1955, 22 were in excess of the previous maximum of seven years. It is hoped that sharp warnings of this kind will eventually result in a marked decrease in trafficking.

Provisions under the regulations allowing pharmacists to release medication with a low narcotic content and intended for oral administration on the strength of a verbal order or prescription issued by a physician have been hailed by both physicians and pharmacists as an advance in narcotic administration.

There was no appreciable increase in the number of reported addicts in 1955. In spite of this, some difficulty has been experienced with illicit traffic in marihuana in one of the larger centres. It is felt, however, that this situation has been drastically suppressed by the arrest and conviction of the ringleaders.

Heroin is by far the outstanding drug in the illicit traffic and was the drug involved in 339 of the 365 convictions for narcotic offences. It should be emphasized that supplies of this kind found in the illicit traffic originate outside Canada and are smuggled into the country by devious methods.

### Control of the Domestic Trade

There were 162 firms licensed as narcotic dealers during the year. These companies, many having been associated with the legal distribution of narcotic drugs for a number of years, conducted all transactions on a very high level, strictly following approved distribution methods. Additionally, 141 licences to import narcotics were issued by the Division, and 47 export licences were granted.

Previously reported methods of recording purchases of narcotic drugs made by professional personnel and hospitals were followed in the Division. More than 35,000 individual purchase cards are maintained and well over 130,000 entries were included in these records during the year. Information so obtained was the basis for hundreds of enquiries being sent out to various firms, physicians, pharmacists and hospitals, all of which served to maintain an effective control over the use to which medication of this type is put in Canada.

An estimate of consumption of the various narcotic drugs in Canada during the period 1946-1955 and a statement showing the quantities imported in that decade appear in Tables 5 and 6 appended.

The inspectional staff of the Division, now consisting of seven pharmacists, visited 146 licensed dealers and audited all records and supplies in relation to narcotics. In addition, 658 hospitals and 1,933 retail pharmacies were inspected. During these inspections particular attention was given to the security measures provided for the safeguarding of narcotics as well as to ascertaining if narcotic regulations were being followed. Members of the inspectional staff were also called upon to make 122 enquiries of a special nature in the interests of narcotic control.

### **Supervision over Retail Pharmacies**

Many minor discrepancies in the manner of keeping records were discovered during these inspections of retail pharmacies. Usually when this situation was discovered, the matter was immediately corrected. In a few cases, however, stern warnings were given to pharmacists for apparent neglect in disregarding regulations.

As in the past, reports of narcotic sales were received at regular intervals from pharmacists across Canada. The schedule of processing these reports has been maintained at approximately 1,000 a month. The results obtained from this work, particularly with regard to detecting incipient cases of addiction and taking corrective measures to adjust matters, demonstrated conclusively that the program is a very important part of the system of control.

### **Liaison with the Professions**

As in previous years splendid co-operation was extended to the Division by all the provincial registrars of the medical, pharmaceutical and nursing colleges or associations. Members of graduating classes at various universities were given the opportunity of hearing a lecture outlining the need for narcotic control and the part they should play in efforts being made to prevent addiction developing.

Several opportunities occurred which permitted physicians to be informed of the addiction potentialities of some of the newer types of analgesics. Indeed, the routine use of morphine by physicians is rapidly declining and being replaced by newer analgesics known as synthetics. In some instances, it has been discovered that cases of addiction have occurred because the addiction properties of the drug prescribed were not known.

### **Convictions**

Supplies of illicit heroin continued to reach Canada in appreciable amounts. It is obvious a much higher standard of national control should be initiated in some countries if the desired degree of success is to be achieved in stamping out the problem of heroin addiction.

The availability of illicit supplies was reflected in the number of narcotic convictions registered. There were a total of 365 as against 340 the previous year. Of these convictions, 301 were for illicit possession, 42 for trafficking and 22 for possession for the purpose of trafficking.

As stated previously, 339 convictions involved heroin. Of the remainder, 11 cases involved morphine, eight marihuana, and one codeine. The synthetic drug, pethidine, was concerned in four cases and methadone in three.

The nationality of those convicted of narcotic offences in 1955 was: 3 Chinese; 1 German; 2 French; 1 Swiss; 358 British, Americans and Canadians.

Sentences handed down for narcotic offences were:

6 months to less than 2 years—231;

2 years to less than 5 years—88;

5 years to less than 7 years—24;

7 years and less than 14 years—22.

A summary of convictions in 1955 appears in Table 4 following.

### **International Co-operation**

All reports required by the United Nations Narcotic Commission as well as information on narcotic control were submitted. Moreover, 38 reports of significant seizures were forwarded to the United Nations secretariat for transmission to other countries.

The Division received several visitors associated with narcotic control in other countries, and invariably it was observed that the method of control adopted by Canada in this field left a very favourable impression upon those connected with similar work in other parts of the world.



TABLE 4

(Narcotic Control Division)  
**CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT**  
 (During the Calendar Year 1955.)

PROVINCE	NATURE OF OFFENCE				DRUGS INVOLVED						
	Illegal possession	Traffic- ing	Possession for the purpose of trafficking	Total	Heroin	Mor- phine	Mari- huana	Deme- rol	Metha- done	Codeine	Total
Newfoundland.....											
Prince Edward Island.....											
Nova Scotia.....	3			3			3				3
New Brunswick.....											
Quebec.....	10	14	2	26	18	3	3	2			26
Ontario.....	77	3	5	85	77	2	2	1	2	1	85
Manitoba.....	11		1	12	10	1		1			12
Saskatchewan.....	3			3		3					3
Alberta.....	16	2		18	16	2					18
British Columbia.....	181	23	14	218	218						218
TOTALS.....	301	42	22	365	339	11	8	4	2	1	365

(Of the above, 1 male in Quebec, 1 female in Ontario and 4 males and 2 females in British Columbia had two convictions. Multiple related charges leading to concurrent sentences treated as one conviction.)

TABLE 5  
(Narcotic Control Division)  
ESTIMATED CONSUMPTION OF THE MAIN NARCOTICS  
(For the Period 1946-1955 Inclusive.)

Unit of Weight — Ounce, Pure Drug.

Year	Raw Opium	Medic- inal Opium and Preps.	Mor- phine	Heroin	Cocaine	Ethyl Mor- phine	Dila- vide	Papav- erine	Codeine	Pethi- dine	Phol- Codeine	Metha- done and Preps.	Levor- phan	Nisentil
1946. ....	3,422	4,797	3,492	1,058	1,552	1,110	22	455	36,191	2,045	.....	.....	.....	.....
1947. ....	3,932	4,734	3,090	881	1,390	1,107	15	715	36,484	5,894	.....	.....	.....	.....
1948. ....	2,090	6,026	3,074	995	1,407	1,032	22	1,416	39,672	5,642	.....	.....	.....	.....
1949. ....	2,010	3,606	2,718	898	1,197	949	16	1,359	44,443	6,852	.....	385	.....	.....
1950. ....	2,330	5,375	2,613	1,000	1,408	1,103	16	1,632	45,582	7,270	.....	397	.....	.....
1951. ....	2,020	5,693	2,525	928	1,270	1,561	15	1,362	56,384	8,916	.....	454	.....	.....
1952. ....	2,045	5,925	2,539	776	1,340	775	20	2,046	63,345	10,087	.....	388	29	.....
1953. ....	762	5,036	2,692	828	1,412	1,582	21	1,691	53,199	10,512*	8	312*	34*	29
1954. ....	1,819	5,574	2,470	992	1,171	593	3	2,608	64,187	11,828	200	383	13	111
1955. ....	739	3,961	1,740	445	1,259	1,121	15	2,531	80,670	13,137	164	210	22	145

\* First use of Pure Drug figure as authorized on UNNC Annual Statistical forms for 1953.

TABLE 6  
(Narcotic Control Division)  
IMPORTS OF MAIN NARCOTICS  
(For Period 1946-1955 Inclusive.)

Unit of Weight — Ounce, Pure Drug.

Year	Raw Opium	Medic- inal Opium and Preps.	Mor- phine	Heroin	Cocaine	Ethyl Mor- phine	Dila- vide	Papa- verine	Codeine	Pholco- dine	Pethi- dine	Levor- phanol	Alpha- prodine	Metha- done
1946. ....	4,000	4,614	1,181	1,020	1,797	664	23	805	35,885	.....	5,539	.....	.....	.....
1947. ....	3,360	6,458	1,046	906	2,169	745	18	961	36,915	.....	9,018	.....	.....	.....
1948. ....	3,200	3,040	3,013	1,019	993	919	26	2,809	34,058	.....	5,175	.....	.....	892
1949. ....	1,720	3,202	3,168	906	666	1,433	11	943	37,751	.....	4,106	.....	.....	1,068
1950. ....	1,609	4,000	2,337	748	1,344	1,207	21	1,292	93,269	.....	5,480	.....	.....	92
1951. ....	1,928	4,423	3,076	1,014	1,053	1,098	17	1,672	37,274	.....	9,189	.....	.....	73
1952. ....	53	5,200	1,173	991	1,122	1,403	15	1,518	58,098	.....	12,343	.....	.....	329
1953. ....	1,744	3,768	2,760	819	1,750	1,108	13	1,540	40,682	21	11,409*	28	93	208*
1954. ....	208	5,280	2,134	832	1,704	1,389	7	2,996	99,273	627	20,884	20	56	324
1955. ....	1,112	5,280	1,841	.....	1,044	853	15	3,063	84,537	201	15,191	20	231	337

\* Pure Drug figure utilized in 1953.

## HEALTH SERVICES DIRECTORATE

### Consultant Services

#### BLINDNESS CONTROL

The Division carried on its educational program for the preservation of vision by pamphlets, articles, radio scripts and motion pictures. Interest was continued in problems of the deaf. The bulk of the division's work consisted of: (1) the carrying out of the regulations of the Blind Persons' Act with regard to arranging for eye examinations in co-operation with the provinces, reviewing the eye reports and issuing blindness certificates to the provincial blindness allowance authorities; (2) administering the restoration of vision treatment scheme, in co-operation with the provinces for suitable recipients of blindness allowance; (3) advising the National Health Grants administration, especially in connection with projects for glaucoma clinics and eye research.

#### Treatment Scheme

The treatment scheme designed to restore vision to suitable blind pensioners was initiated by the Division in 1948 as an experiment. It was made permanent in 1952, and nine provinces agreed to participate. The treatment is authorized by the Division and administered provincially with the federal government re-imbursing each province for 75 percent of the cost. The scheme continues to expand. In the year ending March 31, 1956, 83 cases were treated—mostly by cataract extraction. 62 were successful. In the previous year 53 were treated with 44 successes. Since 1948 the results are as follows:

<i>Province</i>	<i>Successful</i>	<i>Unsuccessful</i>	<i>Total</i>
Nova Scotia	10	9	19
New Brunswick	46	12	58
Quebec	109	42	151
Ontario	38	9	47
Newfoundland	1	1	2
Saskatchewan	1	—	1
Manitoba	5	2	7
Total	210	75	285

#### Glaucoma

Glaucoma continues to cause more blindness in Canada than any other eye disease. The four glaucoma clinics for needy persons already in operation were augmented by clinics at Saint John, N.B., London, Ont., and Vancouver, B.C. These clinics are conducted as projects under the General Public Health Grant. Other glaucoma clinics are in the planning stage.

#### Legislation

The age limit for eligibility for blindness allowance was lowered from 21 to 18 years by an amendment to the Blind Persons' Act. This has resulted in the addition of several hundred blind in Canada to the blindness allowance rolls. Of the 21,010 registered blind in Canada some 8,500 are receiving a blindness allowance. On reaching age 70 the blindness allowance is stopped and an old age security pension is automatically substituted.

The Division prepared a new pamphlet concerning visual problems of teen-agers, for publication by the Information Services Division.



## Eye Research

The Division continued its interest in eye research by means of projects under the National Health Program. By this means projects are under way at the Banting Institute and Hospital for Sick Children, Toronto, concerning virus eye diseases, uveitis and panophthalmitis. A research eye bank has been started at Toronto to investigate preservation of corneae for transplantation purposes. Research into glaucoma continues at Toronto, while at the University of Ottawa a research project is under way concerning corneal transplantation and the action of drugs on the nerves and muscles of the eyes.

## CHILD AND MATERNAL HEALTH

The Division has continued to concern itself with the specific health needs of mothers and children, a group composed of almost a million new mothers and babies each year and a child population of 4,500,000 under 15 years of age. Particular emphasis has been placed as in former years on maternal and infant health services. The Division functions in an advisory capacity and assists in a number of ways in the promotion of optimum health for the mothers and children of Canada, including: (1) assistance and advice are made available to provincial health departments in the assessment of present facilities and services and in planning for their extension; (2) assistance is given on request to the National Health Grants Administration in the review and assessment of health grant projects for services to mothers and children; (3) educational materials for both the general public and professional individuals and groups and (4) research conducted and stimulated on health problems peculiar to mothers and children.

## Health Grants

Improvements and extensions of maternal and child health services on the provincial and local level have been stimulated by the funds of the Child and Maternal Health Grant. The Division has continued to be consulted frequently by the National Health Grants Administration regarding the utilization of these funds. During the year another province made an arrangement to obtain pediatric consultant services in child health so that almost every province now has some administrative arrangement for the coordination and extension of maternal and child health services, including six divisions of maternal and child health under full-time medical direction. Utilization of funds continued to emphasize the improvement of hospital maternity and newborn care through provision of equipment and the training of medical and nursing personnel. Grant support assisted in the development of two courses for nurses in newborn and premature care.

Interesting and valuable research was carried on, assisted by National Health Grant funds. A high proportion of the studies under way was in the area of maternal and newborn care such as the causes of abortion, nitrogen balance in pregnancy, newborn hematology, inheritance in hare lip and cleft palate.

## Consultation with Provinces

Every province was visited by the Chief of the Division during the year. Discussions took place with provincial health authorities as well as with physicians and hospital personnel concerned with these problems. Advantage was taken of every opportunity to visit projects receiving grant assistance and to discuss the terms of reference of the Child and Maternal Health and Crippled Children Grant. The nursing consultant also visited nine provinces during the year to familiarize herself with nursing service and nursing education in relation to maternal and child health. Her initial contacts in each province were with the directors of public health nursing and maternal and child

health. Visits were made to university schools of nursing where they existed and to provincial nursing associations.

### **Educational Materials**

The development of educational materials in cooperation with the Information Services Division has continued. Emphasis has been placed during the year on materials for use in prenatal education programs. The major production has been a manual for nurses "Education for Expectant Parents". This, along with two pamphlets for mothers on prenatal care in general called "Before Baby's Born", and prenatal nutrition called "What to Eat Before Baby's Born", will be available soon.

Two new filmstrips have been produced: "Before Baby's Birthday" dealing with prenatal care and "Caring for Baby" dealing with infant care.

A new policy has been established whereby the free distribution of the "Canadian Mother and Child" has been reduced by 25 percent. Other materials, such as the manual "Care of the Premature Infant", have been in constant demand.

### **Other Activities**

The year was marked by a most significant event. The first Maternal and Child Health Conference of federal and provincial maternal and child health workers was held in Ottawa at the invitation of the department. Seven provincial health departments were represented, including five of the six provinces which now have divisions of maternal and child health under full-time medical direction. Outlines of provincial programs emphasized an active interest in prenatal education and problems of newborn and premature care in hospitals. The utilization of National Health Grant funds to improve and extend maternal and child health and crippled children's programs and for research was discussed. It was clear that there were many areas of common interest and it appeared that further meetings would make a distinct contribution to a more coordinated program of health care for these special groups.

The nursing consultant attended a three-week institute on "Preparation for Child-bearing" given by the Maternity Centre Association in New York City. On the invitation of a provincial health department the nursing consultant led a 3½ day institute for public health and hospital nurses on "Maternal and Infant Care".

The chief of the Division participated in a panel discussion on newborn care at the joint British Medical and Canadian Medical Association meeting.

### **Indices of Progress**

Reductions in maternal and infant mortality rates are widely recognized as valuable reflections of general progress in maternal and child care. The prevention of needless maternal and infant deaths is a primary objective in all maternal and child health programs but should not be the sole objective.

**Maternal Deaths**—In 1954 there were 312 deaths of mothers in Canada. This represents a rate of 0.7 deaths per 1,000 live births—the lowest national rate which has ever been achieved. In 1944 there were 814 deaths in nine provinces and a rate of 2.8 deaths per 1,000 live births.

There was considerable variation in rates among provinces in 1954, the highest rate being 1.6 and the lowest 0.3.

## Major causes of maternal deaths, 1954:—

	<i>Number</i>	<i>Percent</i>
Toxemia .....	83	27%
Hemorrhage .....	75	24%
Infection .....	61	19%
Disproportion and prolonged labour.....	35	11%
Other .....	58	19%
Total.....	<u>312</u>	<u>100%</u>

Obviously good maternity care is not being received by all mothers who need it. Many of these maternal deaths are preventable. Adequate prenatal care with facilities for laboratory tests would discover cases of toxemia of pregnancy in the early stages when treatment can most effectively prevent a serious outcome. Better hospital facilities with transfusion services would contribute greatly to a reduction in deaths from complications such as hemorrhage at delivery.

Although there are no accurate statistics on maternal morbidity, the association between maternal morbidity and complications in the newborn infant is well recognized. Continued improvement in service to mothers will be reflected in a reduction in stillbirths and neonatal deaths as well as maternal deaths. Two steps are necessary. One is to improve facilities for maternity care, especially in rural areas, and the other is to ensure that the mothers requiring care avail themselves of it.

**Infant Deaths**—In 1954 there were 435,142 live births in Canada, a birth rate of 28.2 per 1,000 population. There were 13,841 infants who died in their first year, an infant mortality rate of 32 per 1,000 live birth. The rate 10 years ago was 56. Canada has obviously shared in the worldwide improvement in infant mortality. We have cause for concern, however, since many other countries with no higher standards of living save more infant lives. In 1954 eight countries had rates under 30, and 11 under 32.

There was considerable variation in infant mortality rates among the provinces—the highest rate being 41 and the lowest 26.

As deaths in the first year decrease, deaths in the first month of life or neonatal deaths make up a larger proportion of the total. In 1954, 8,384 deaths or 60 percent occurred in the first month of life.

If to 8,384 newborn deaths are added 7,213 stillbirths, the total of 15,597 Canadian infant lives lost before one month of age is formidable. The size of the problem is further illustrated by the fact that in 1954 this number of deaths was exceeded only by deaths at all ages from malignant disease and arteriosclerotic heart disease.

## Major causes of infant deaths, 1954:—

	<i>Number</i>	<i>Percent</i>
Lower respiratory infections.....	2,310	17
Congenital malformations .....	2,137	15
Immaturity .....	2,062	15
(as a contributory cause in 2494)		
Asphyxia and atelectasis .....	1,507	11
Birth injury.....	1,386	10
Gastro-intestinal infections.....	691	5
Hemorrhagic disease and erythroblastosis.....	501	4
Ill-defined diseases.....	969	7
Other .....	2,278	16
Total.....	<u>13,841</u>	<u>100</u>

Respiratory infections remain the leading cause of death in infancy, while gastrointestinal infections contribute significantly to the total. It is seen too that immaturity or prematurity is an important cause of death. Of all infant deaths one-third occur in premature infants under one month of age. This further emphasizes the importance of the care of newborn infants in hospital since 85 percent of infants are now born there. It is clear that infant and maternal mortality are urgent health problems which require the cooperative efforts of physicians, hospital services and public health workers for their solution.

## DENTAL HEALTH

One of the tasks undertaken by the Dental Health Division soon after its inception in 1946, and still continuing, was to obtain a measure of the prevalence of tooth decay, dento-facial abnormalities, and periodontal disease. It has been found that the school child who does not have tooth decay and the adults who do not have both tooth decay and disease of the periodontal tissues, with malocclusion as well, are so rare as to command both professional and lay interest whenever they are encountered.

Oral disease and partial disability is the rule rather than the exception. Familiarity with it from earliest childhood, along with the fact that *per se* its contribution to mortality statistics is negligible, has delayed its recognition as a matter of public health importance. However, within recent years studies in dental economics and epidemiology, some of them by this division, have revealed something of the magnitude of the problem and stimulated the thinking of public health people concerning it. A recent survey by the Canadian Dental Association showed that the annual cost of treating oral disease is somewhere in excess of \$70,000,000. This expenditure and the efforts of Canada's 5,000 dentists, was sufficient to meet something less than one-quarter of the total need for oral health care.

The futility of endeavouring to deal with such a burden of disease by traditional dental treatment measures has become clear. Attention has been turned to prevention as offering the only solution. This has given an impetus to the use of known preventive measures, to their improvement and to the quest for new ones, which in turn is in the course of having a profound effect on the thinking, work and training of the dental profession. Attention has been directed as never before to the systematic dental care of young children. The National Health Grants arrived at the right time to further the development of this trend.

## Health Grants

Oral health programs aided by federal health grants are now in operation in all provinces. The General Public Health Grant is their main source of health grant aid. Six provinces have set up dental divisions, each headed by a dentist whose training in public health was obtained with the assistance of a bursary provided from the Professional Training Grant. These divisions collaborate closely with the Dental Health Division of this Department and with the dental profession on technical matters relating to the dental care of young children, and in setting up grant-aid health education and systematic treatment programs for pre-school and elementary school children. In this way the federal health grants are laying the foundation for a systematic attack on oral diseases and growth abnormalities, beginning where they should begin, in the child.

The Crippled Children's Grant provides aid for two important projects aimed at the prevention and early interception of dento-facial abnormalities. One is a research project at Burlington, Ont., in which a study is being made of environmental and genetic factors which appear to have a bearing on the question. The other is a preventive orthodontic clinic in Toronto, which uses and develops methods for the interception of malocclusion in very young children.



Although the National Health Grants have been used chiefly to aid programs aimed at prevention and early systematic treatment for very young children, considerable help has been given to improve oral health facilities for adults in sanatoria and mental hospitals.

## Research

During this year the dental caries data derived from the 1955 clinical examination of about 5,000 children involved in the study of the dental effects of water fluoridation in the test city of Brantford and the two control cities of Sarnia and Stratford were analyzed and a report published. The Research and Statistics Division assists with this work. The analysis of the data shows that the children born in Brantford since the beginning of fluoridation (1945) have about the same caries prevalence as those of the corresponding age groups in Stratford, where the water supply has contained fluoride in excess of one part per million for the past 39 years. The caries prevalence for these age groups in Sarnia, where the water is fluoride-free, is three times as high. No ill-effects of either a medical or a dental nature have been observed in either Brantford or Stratford.

The five reports issued by this Department on the Brantford-Sarnia-Stratford study and published in the *Journal of the Canadian Dental Association* have been widely quoted in scientific journals in many parts of the world. Following the publication of each report so many requests have been received from universities and health officials, in Canada and abroad, for a description of our study methods that this Division and the Research and Statistics Division have found it necessary to prepare and make available for distribution a publication entitled "A Suggested Methodology for Fluoridation Surveys in Canada." The demand for this monograph is increasing.

In addition to the water fluoridation study, the Division, again with help from the Research and Statistics Division and also with help from the Food and Drug Directorate, is conducting two other studies in the field of prevention. One of them involves the topical use of a stannous fluoride solution for the prevention of tooth decay. This one, which was reported at the 1955 meeting of the Canadian Public Health Association with the report appearing in the October, 1955, issue of the *Canadian Journal of Public Health*, has produced evidence to suggest that stannous fluoride, although requiring further investigation, may be a highly valuable agent with which to combat tooth decay. The other study is aimed at simplifying the technic for using sodium fluoride.

## Education and Information Services

Nowhere across the broad field of public health does prevention depend so much upon what people can be motivated to do and to continue to do for themselves as in the field of oral health. The health of oral tissues, hard and soft, depends upon the eating habits which people can be taught to accept and practise, with special reference to sweet foods. It depends also upon their being taught to desire and practise oral cleanliness. Selecting food wisely and cleansing the mouth are the initial and most important aspects of an oral health program. Generally speaking, only the individual himself can do these things. Without them, the beneficial effects of any preventive and treatment services provided for him by others are rendered largely ineffective or completely undermined. The first step in initiating an oral health program should be to teach people to do for themselves those preventive measures which they alone can perform. Only by the adoption of such a policy can the investment of public funds in treatment programs be protected.

Therefore, this Division, with the assistance of the Information Services Division, has directed its attention and efforts to the production of attractive folders, posters, films

and filmstrips designed chiefly for use in elementary schools. These materials are planned in co-operation with the provincial departments of health. They are in heavy demand. Requests to purchase them frequently come from health agencies of other countries.

A new film, the first to deal with the subject in Canada, on the prevention of malocclusion is now in the course of production.

### Other Activities

The research work of this Division on water fluoridation and on the topical use of fluorides has given rise to many requests to address dental and public health organizations and also such lay organizations as city councils, boards of education, home and school and nurse groups. The major organizations addressed during the year were the Canadian Dental Association, the Maritime Dental Association and the Canadian Public Health Association. Scientific articles prepared by the Division have been published in the *Journal of the Canadian Dental Association*, the *Canadian Journal of Public Health* and the *Canadian Services Medical Journal*. A paper was also prepared and presented as part of a civil defence course at the Civil Defence College, Arnprior. This will be published in the *Journal of the Canadian Dental Association*.

Members of the Division have attended scientific meetings in both Canada and the United States with a view to keeping abreast of developments related to the research work of the Division. The head of the Division was elected to membership in the International Association for Dental Research, in recognition of the value of articles published on studies of the dental effects of water fluoridation.

During the year the Division has assisted in the work of the following divisions, and in turn has received help and advice from most of them: Health Grants Administration, Research and Statistics, Food and Drug Directorate, Child and Maternal Health, Occupational Health and Information Services.

Close liaison is maintained with the Canadian Dental Association and more particularly with those of its official committees whose terms of reference have a bearing on public health matters. Liaison has been established with the Associate Committee on Dental Research of the National Research Council, and the head of the Division has been appointed to membership on that committee.

## HOSPITAL DESIGN

This Division is a consulting service to provincial health departments and to those concerned with the planning and operation of hospitals. It co-operates with the provinces in their efforts to promote sound planning for health institutions of all types.

Plans of every hospital requesting assistance under the Hospital Construction Grant in the National Health Program are studied to see that they conform to minimum standards of hospital construction as prepared by this Division. These plans are also studied to determine the amount of federal assistance payable under the terms of the grant.

### Consultations

The provinces, and also a number of architectural firms, forward drawings to this Division during their preliminary stage for criticism and consultation prior to submitting a formal request for federal assistance. The advantages of this procedure are that the plans can be easily altered at an early stage in their development. This Division produced alternate plans which have been adopted wholly or in part, for many hospital projects during the past year.

Because of the limited number of personnel, it is not possible for this Division to undertake at this time research planning projects which would provide information for those concerned with the planning and operation of hospitals and allied construction.

### **Hospital Construction Grant**

Since the inception of the Hospital Construction Grant in 1948 more than \$79,500,000 have been allocated toward the construction of space for more than 60,500 patient beds of all types, 7,700 bassinets and 10,300 nurses' beds. Grants have also been approved for community health facilities (which include such areas in hospitals as out-patient departments, radiology, laboratories, emergency, pharmacies, dispensaries and remedial therapy) and for training facilities for health and hospital personnel. The problem of approval becomes more complicated yearly as hospitals often return three or four times for additional grants, as well as submitting numerous amendments to those projects already approved. It is necessary to review the complete developments to ensure that a duplication of assistance does not occur or that a hospital receives all it is entitled to under the terms of the order-in-council.

The problem of obsolete facilities in hospitals is being studied. It becomes of increasing importance now that the acute shortage of active treatment beds, which existed in 1948, has been met, although there will be a continuing demand for new beds due to increases in population and the re-location of hospitals to cope with a shifting population. There is still a shortage of beds for the mentally and the chronically ill.

Conferences on hospital planning and problems pertaining to the Hospital Construction Grant were held with provincial health authorities of Nova Scotia, Ontario, Quebec, Manitoba, Saskatchewan, Alberta and British Columbia.

### **Other Activities**

During the past year the Chief of the Division gave papers on various subjects relating to hospital planning to the Manitoba Hospital Association, the Western Conference of Hospital Administrators, and the B.C. Hospital Association. He also lectured for a day to the students attending the course for hospital administrators at the University of Toronto. He has continued to act in a consulting capacity for hospital planning of the armed forces and is a member of the C.F.M.C. Sub-Committee on Hospital Planning. He also continues to act as chairman of the C.S.A. Committee on Safety Code for Hospital Hazards.

## **MENTAL HEALTH**

During the fiscal year the Mental Health Division continued its program of assisting the provinces in the expansion and improvement of mental health services in Canada. Allocations from the Mental Health Grant were at a satisfactory level—expansion of existing services was supported and new services were inaugurated. A continuous evaluation of the requirements for mental health services in Canada was maintained and the Mental Health Division, in co-operation with the provincial mental health services and university departments of psychiatry, attempted to promote those programs most likely to lead to improvement in treatment services provided for the care of the mentally ill.

### **Mental Health Grant**

Total expenditures exceeded \$5,600,000, which was slightly less than the total expended during 1954-55. The decrease was a reflection of the general application of new principles with regard to meeting mental health needs. This change called for new planning with a resultant lag in organization of facilities and thus in expenditures—a lag which should not be evident in 1956-57. As a result of these new principles the outlay for provincial mental health divisions increased from \$173,000 to \$180,000 while ex-



penditures for mental hospital services decreased from \$3,372,000 to \$2,840,000; community mental health clinics received \$709,000 as compared with \$697,000 in the previous year; psychiatric services in general hospitals accounted for an expenditure of \$719,500 as against \$607,000; support for training programs decreased from \$231,000 to \$209,000; bursaries were about the same—\$427,000 to \$434,000; research expenditures rose from \$522,000 to \$547,000.

These figures reflect the fact that the original need for establishing training centres has, to a great extent, been met and expenditures on this item will probably remain stationary or will decrease in future years. The serious need for mental hospital equipment and personnel has also been ameliorated—new hospitals have been built and old ones remodelled and expanded. Thus there is a decrease of 15 per cent in expenditures for mental hospital services. On the other hand, the increasing belief in the value of the psychiatric unit in the general hospital has led to an increase in expenditure of more than 15 per cent for these services in one year. The need for trained personnel and further knowledge of the etiology and treatment of mental illness indicates that expenditure on bursaries and research should be continued at least at the present level for some years.

### Consultant Services

One of the important aspects of the Division's work has been the provision of consultant services to the provinces, to other divisions of National Health and Welfare and to other federal government departments. Such consultant services are regularly provided to Medical Rehabilitation and Disability Advisory Services, Immigration Medical Services, Information Services Division, Civil Defence, Narcotic Control Division, Hospital Design Division, Indian Health Services and the Dominion Bureau of Statistics. In addition, the Mental Health Division has made personnel available to provinces and municipalities for discussions on research design, employment policies, training of personnel and other related topics. That provision of such aid is welcome it attested by the steadily rising number of requests forwarded to the Division. Important contacts with mental health personnel were maintained by attendance of the division Chief at a preliminary meeting which led to the establishment of a Mental Health Section of the American Public Health Association. He also acted as chairman of the Public Health Committee of the American Psychiatric Association.

### Public Education

The rising public interest in problems of mental health has presented a challenge to the Division to make available the kind and amount of educational material that will support this growing interest. Accordingly, the Division issues pamphlets, motion pictures, filmstrips, as well as *Canada's Mental Health*—a newsletter for professional personnel. Thus, each year, demands for material in new fields must be met as well as provision for a continuing supply of current publications.

Pamphlets produced in 1955-56 included "Opportunities for Registered Nurses in the Mental Health Field", "Opportunities for Social Workers in the Mental Health Field", "Mental Retardation", "Parent Education", and "Sleeping Habits". Filmstrips prepared were "Fear", "Feeding Habits", and "How Should I Tell My Young Child About Sex". Films produced were—the English version of "From Ten to Twelve" in the Ages and Stages series; and a French version of "To Serve the Mind". The two pamphlets on "Opportunities" are a clear indication of the division's recognition of personnel shortage in the mental health field.

In addition to the above standard materials a Fact Sheet, dealing with mental illness in Canada, was prepared for the information of professional personnel and four posters on mental health were printed for public use.



## Advisory Committee on Mental Health

The Advisory Committee on Mental Health did not hold its annual meeting this year. However, subcommittee reports are as follows:

**Research**—The Research Subcommittee met and recommended 48 research projects (an increase of five over the previous year) in an amount of \$547,000, a small increase over the previous year.

**Public Education**—This Subcommittee met on two occasions and gave careful thought to the adequacy of promotional material presently available. The assistance of this committee in the development of the division's public education program is most valuable.

**Training**—The Subcommittee on Training met July 7 and 8, 1955, to consider current training of psychiatric nurses and to make such recommendations as appeared advisable for the furtherance and improvement of such programs. Agreement was reached on several items such as definitions, titles and duties of psychiatric nurses. Approval in principle was given to a combined psychiatric and general nursing course and a core committee was appointed to study the requirements which would be necessary to establish such a program.

Although the Subcommittee was not asked specifically to deal with the study of personnel shortages, undertaken by the Mental Health Division on request of the Advisory Committee, nevertheless the study properly is part of the Subcommittee's area of interest and, therefore, is reported here. The Mental Health Division collected data to satisfy the previous year's request for information on needs for professional personnel in Canada. A tentative report on such needs was turned out and a study of attrition was completed in rough form by the end of the fiscal year. This latter report will be available in final form in the summer of 1956. Such studies may have a very profound influence on the training and bursary programs in the future and may indeed be of great help to the universities and other training centres as they plan their services in the coming years.

## NUTRITION

The program of this Division is designed to determine the extent of nutrition problems in Canada and to maintain and improve the health of the population by encouraging sound nutrition practices. Towards these ends, a variety of technical services are provided to provincial and federal agencies.

To promote and facilitate an exchange of up-to-date nutrition information, a Nutrition Conference was sponsored in Ottawa in July, 1955. This second conference (the first was held in 1945) was attended by approximately 200 professional people coming from every province except Newfoundland.

A simplified system for collecting and submitting blood samples resulted in a notable increase in the work of the clinical nutrition laboratory. In the experimental kitchen school lunch recipes were tested and standardized at the request of a provincial health department.

Assistance with nutrition institutes in two western provinces marked the beginning of a new field of activity.

## Research and Surveys

Further tabulations of data obtained in the weight-height survey were received from the Dominion Bureau of Statistics. Several papers on various aspects of the subject were presented to professional groups, and articles were prepared for scientific journals.

A wall chart of the weight-height tables was produced and distributed to provincial health departments.

A study of the relationship between bone-meal enriched flour and haemoglobin levels, in progress for six years, was concluded, and a report is being prepared. Also concluded was a study of the storage life of a variety of common foods. This study, which has been carried on for four years, was designed to provide information of value in disaster planning.

Work was started on a revision of the weighted nutrient conversion factors used in calculating the nutritional value of the foods entering civilian consumption in Canada. A revision of diet record forms used for nutrition surveys was also undertaken.

In connection with the study of Leber's Optic Atrophy, which has been carried on by the Division for the past six years, a method of scoring stress factors that might have a causal effect was developed and put into practice.

### Laboratory Services

A new method of collecting blood samples for shipment was developed by the laboratory. As a result, the service to physicians and hospitals, whereby analyses of certain nutrient factors in blood and urine samples are performed free of charge, was greatly expanded during the year. Officers of Indian Health Services, as well as several provincial laboratories and private groups, took advantage of this service. More than 2,000 tests were completed during the year.

During the clinical examination of a group of 432 students in New Brunswick, blood samples were obtained and analysed for vitamins and other body constituents.

### Consultant Services

*Other Divisions*—A study of the breakfast habits of Ottawa civil servants was undertaken as a joint project by the Civil Service Health Division and the Nutrition Division. More than 4,000 civil servants returned questionnaires, and follow-up programs were instituted to correct the faulty eating habits disclosed by the survey.

Civil servants with possible nutritional problems continue to be referred to the Nutrition Division for examination and advice. To extend the value of this service, a nutritionist has been assisting the nursing counsellors with the nutritional advice they give to many civil servants in addition to those actually referred to the clinic.

Comprehensive reports on the feeding services in hospitals and nursing stations visited during 1954-55 were prepared and submitted to Indian Health Services. The staff requirements and duties for food service departments in Indian hospitals were outlined, and equipment lists for food service in nursing stations were prepared. Advice was given on kitchen plans for a 120-bed hospital in Whitehorse.

Some quantity recipes for 20-50-100 serving recipes, for use in Indian hospitals, were tested in the experimental kitchen.

Assistance was given to Indian Health Services in planning and judging a nutrition poster contest for children in Indian schools and hospitals.

Nutritionists assisted in planning for and carrying out a welfare emergency feeding course at the Canadian Civil Defence College, Arnprior. The Division is also represented on a committee studying emergency rations and on one on food technology.

Several divisions requested collaboration with pamphlets, filmstrips and other educational materials in which nutrition information was included.

*Other Departments*—Advice was given on kitchen plans and equipment requirements for Indian residential schools being constructed in Le Pas and Dauphin. Informa-

tion was also provided concerning equipment for other schools. The keeping quality and nutrient value of the specially-prepared vitaminized biscuits distributed to Indian school children were studied. Work was also done on simplification of current relief rations supplied in northern areas of Canada.

Membership on nutrition panels and interdepartmental committees occupies some of the time of the chief of the division, who also served on an FAO Committee on Protein Requirement in Rome.

*Provinces*—Nutritionists constitute a relatively small professional group. Many others—doctors, nurses, social workers, teachers—include nutrition teaching with their other activities. Provincial nutritionists have frequently requested this Division to provide an opportunity for all these groups to meet together to obtain up-to-date information on nutrition and on educational methods most suitable for nutrition teaching. For this purpose a Nutrition Conference was sponsored by the Division. Held in Ottawa in July, 1955, it was attended by approximately 200 professional people interested in nutrition. All of the groups mentioned were represented. The Conference was a stimulating experience for all who attended, and it has been suggested that regional conferences of a similar type would serve an extremely useful purpose.

At the request of the New Brunswick Department of Health, a set of school lunch recipes submitted by the province is being tested and standardized.

Several provinces have requested assistance in putting on courses for the cooks in small institutions. Plans have been completed for three such courses to be held during the summer and autumn of 1956. During the year provincial nutritionists requested and received assistance with a variety of specific problems. Considerable time was devoted to replying to the many requests for nutrition information that were received from professional and lay people.

## Education and Information

A nutritionist assisted in planning for and participated in institutes for nurses that were held in Alberta and Manitoba. Nutrition education received particular emphasis. A nutrition refresher course for home economics teachers in New Brunswick is being planned for July, 1956.

A nutrition photograph contest was held for the fourth successive year. Sixty-one entries were received.

Publications of proved usefulness were reprinted for use in provincial nutrition programs.

## Advisory Committee

The 1955 meetings of the Canadian Council on Nutrition, an advisory committee to the Minister of National Health and Welfare, and of the Dominion-Provincial Nutrition Committee, a committee of the Council, were held in conjunction with the Nutrition Conference.

## Environmental Health & Special Projects

### MEDICAL REHABILITATION AND DISABILITY ADVISORY SERVICE

The Medical Rehabilitation and Disability Advisory Service, established last year, continued to build up its services during 1955-56. There was a considerable increase in the calls made on both areas of its functions. In rehabilitation and in disability programs, there was a general expansion of provincial programs.

## Rehabilitation

The staff of the service act as consultants in matters pertaining to medical rehabilitation. In this connection, the service co-operates with the National Health Grants Administration by providing technical appraisals of all projects submitted under the Medical Rehabilitation Grant. In some instances, projects submitted under other grants, which pertain to rehabilitation in specific fields, are also appraised by the service. Close liaison is maintained with other consultants where mutual interests are involved.

**Medical Rehabilitation Grant**—There was some increase in utilization of the Medical Rehabilitation Grant during the year. Because of the policy of relating individual projects to provincial rehabilitation plans, caution has been exercised in the extent to which individual submissions have been sent in. Some provinces, however, have been using almost fully the funds allocated to them; in other provinces, progress has been less marked. The manner in which the grant funds have been used differs from province to province. A substantial portion of the grant is being used for the training of rehabilitation personnel. The lack of qualified rehabilitation staff is, in many instances, the greatest handicap to the extension and expansion of rehabilitation services. In addition to providing the funds for the training of such personnel as physiatrists, physiotherapists, occupational therapists, speech therapists and medical social workers, grant funds have also been made available to assist in the establishment of two schools of physiotherapy and occupational therapy.

In several provinces grant funds have been made available for the employment of medical rehabilitation personnel. In addition, funds have been provided for the extension of medical rehabilitation services. A pilot project to provide rehabilitation services in chronic hospitals was also financed out of grant funds.

Medical rehabilitation equipment has been purchased for rehabilitation centres and for rehabilitation departments in hospitals.

**Liaison and Co-operation**—The Service maintains liaison with other departments of the federal government, in addition to other divisions within the Department. Constant consultations are held with the office of the National Co-ordinator for Rehabilitation of the Department of Labour. The service co-operates with the Vocational Training Branch of the Department of Labour, with the Special Placements Branch of the National Employment Service and with the Department of Veterans Affairs in matters of mutual interest.

The Service continued actively to participate in the work of the National Advisory Committee on the rehabilitation of disabled persons. Representatives of the Service attended meetings of the executive and of the Committee held in Winnipeg and Quebec respectively during the year.

Provincial governments have received technical advice from the service. At the request of the Government of British Columbia, a comprehensive study of medical rehabilitation was carried out in that province. Further requests for similar studies were received before the end of the year. A number of requests for technical advice from community planning groups and voluntary agencies were also filled.

## Disabled Persons Programs

The Service continued to co-operate with the Director of Disabled Persons Allowances in the medical areas of the disabled persons programs. Agreements were entered into with eight provincial governments for the sharing of costs of special medical examinations when such examinations were authorized by federal and provincial medical representatives charged with advising provincial authorities concerning disability factors.



At the end of the first year's operation of the disability programs, a meeting of federal medical representatives was convened in Ottawa, to which provincial medical review board personnel were invited. As a result of the proceedings of this meeting, certain modifications in the interpretation of the definition of permanently and totally disabled were suggested. A new section was added to the Disability Evaluation Manual on the subject of social factors in disability evaluation.

## OCCUPATIONAL HEALTH DIVISION

The prime objective of this Division is the promotion of good health practices among industrial and other occupational groups in Canada. It functions in an advisory and consultant capacity on occupational health matters. On request, both advice and assistance are provided to other federal government departments, provincial departments, several Crown companies, the armed forces, commercial and industrial organizations and other interested groups and individuals.

### Laboratory Services

Many occupational health problems referred to the Division require scientific research and investigation in laboratory, field, factory or mine. The laboratory, with a well-trained staff of experts in various specialties and using modern equipment, is well fitted to undertake such work and operates in close cooperation with the clinical staff.

Occupational health problems included the analysis and control of dusts and gaseous contaminants as well as other problems of the working environment.

### Research in Dust Analysis

1. *Research on microchemical techniques for the identification of submicron particulates in contaminated air by optical and electron microscopy* — At the request of the Technical Advisory Board on Air Pollution of the International Joint Commission a study to evaluate the submicron air pollutants in the Windsor-Detroit areas was instigated. The latest and most efficient techniques were employed in this study, and work is continuing with a view to extending the range of identification of particle size.

2. *X-ray Diffraction Studies* — X-ray diffraction analysis of atmospheres of several Ontario cities revealed a striking similarity in the concentrations of calcite and calcium sulphate (gypsum). From this work it was postulated that a chemical reaction takes place between air-borne calcite and sulphur compounds which occur in urban atmospheres. Experimental tests were made and are continuing to determine the validity of this hypothesis

Through the use of diffraction equipment, special industrial dusts, suspected of being toxic and not estimable by other techniques, were analyzed. These studies are continuing.

3. *Studies of Sulphur Dioxide* — Late in 1955 an air sampling station, operated largely with automatic equipment, was put into operation in Ottawa to determine the sulphur dioxide content of the air. This station provides a continuing record of air pollution in the area. Sulphur dioxide was also used in studies initiated to determine the role of dust particles as carriers of toxic gases into the lung.

4. *Electron microscopic study of counting techniques for quartz dust* — This project arose from the need for improved techniques of quartz dust assessment in relation to health control in foundries and mines. Since the recruitment of a full-time electron microscopist late in 1955, investigation of the problem is proceeding.

### Investigation of Environmental Conditions

1. *Survey of arsenical waste at Yellowknife* — This study, begun in 1951, was continued. A five-year report was compiled in August, 1955. The findings indicated that collection of arsenic is still not adequate, and further improvements are being made. This study is continuing.

2. *Appraisal of the environmental problem in the new chemical industries* — This study was made in view of the exceptional growth of new chemical operations in Canada. The results were published in the International Labour Review.

3. *Investigation of environmental conditions in federal premises* — Special investigations of environmental conditions in federal premises were continued during the fiscal year. These included a study to determine whether mercury presented a possible hazard to the health of laboratory workers during handling of mercury-treated seed in a Department of Agriculture laboratory, from which evolved the development of a new method for the laboratory determination of mercury; and a series of investigations at the request of the Civil Service Health Division and Crown companies into lighting, noise and environmental pollution conditions considered to have an effect on the health of civil servants and other federal employees.

### Biological Research

The study of the esterase response of rats to chlorinated hydrocarbon chemicals, including pesticides and the solvent carbon tetrachloride, was completed in 1955 and the findings published in the scientific literature.

### Consulting Service and Other Functions

A report on dust suppression practices in Canada was prepared for the International Labour Office. This report is made annually.

Laboratory staff members continued to serve on various committees and boards which function in the interest of occupational health. Staff members also rendered extensive consulting service on day-to-day occupational health problems encountered by federal agencies, Crown companies and other occupational groups.

The chief of Laboratory Services visited all provincial centres in Canada in connection with the development of provincial industrial hygiene services. He also was responsible for organizing the analytical section of the Air Pollution Symposium to be held by the American Chemical Society in September, 1956. Another staff member was invited to address the Western New York section of this Society on microchemical identification of airborne particulate matter. A third member prepared a report covering maximum allowable concentrations of pesticides to be permitted in working environments. This report will be published in an international technical journal.

### Clinical Services

Many requests for medical and nursing advice and assistance were received during the year.

*Medical* — Medical personnel, in cooperation with laboratory staff, assisted in a number of surveys and studies, in either a supervisory or participant capacity. The following are some of the projects undertaken for federal government departments.

(a) An investigation of a section of the Department of Mines and Technical Surveys where the presence of noxious fumes was suspected. The survey revealed the cause, and advice and assistance were given to control the hazard.

(b) The Post Office Department was advised on the problem of packaging tins containing caustic soda for safety in transit.

(c) Information on control of solvent vapours was provided to the National Film Board and a section of the Department of National Health and Welfare, where solvents were commonly used during work.

(d) Clinical and laboratory assistance were requested by the Department of National Revenue concerning problems of space allotments, illumination, ventilation, and heating in the premises of its Income Tax Division.

In addition, many enquiries concerning occupational health problems were dealt with, and advice given to provincial health departments, industries, local health agencies and other interested groups and individuals. Information was provided on such diverse topics as dust control, small plant health services and hazards of certain chemicals.

In cooperation with the laboratory staff, clinical members assisted with the preparation and presentation of a lecture course in occupational hygiene to members of the armed forces. This course was considered of great value since the armed services maintain many establishments and carry out procedures which present many of the same health hazards as are encountered in modern industry.

Requests for information were received from abroad, including Australia, Belgium, South America and France.

Members of the clinical services also prepared reports for presentation at conferences and seminars. Some of these have been published in divisional and other technical publications.

Although the work on pesticides has decreased, a member of the clinical staff continued to provide information on health hazards of some new pesticide products as a service to the Department of Agriculture.

## Nursing

Consistent with the division's consultant program, the nursing consultant continued to provide leadership and assistance in matters pertaining to occupational health nursing.

She attended and participated in various institutes for industrial nurses and presented papers at other medical and nursing conferences, among them, "The Role of the Employer in an Occupational Health Program". In addition, she prepared articles for publication in divisional publications and in other Canadian and in U.S. periodicals. Among these were articles on "Narcotics in Industry", "The Role of the Nursing Consultant in Occupational Health", and "Occupational Health in Canada," this last in collaboration with a division medical officer.

Other activities included meetings with provincial nursing consultants to discuss program organization, preparation of publications and other matters pertaining to the promotion of occupational health and the interpretation of occupational health nursing to industrial, commercial and other occupational groups and individuals.

In addition, the consultant assisted in civil defence training courses for nurses at the Civil Defence College, Arnprior, Ont., presenting a lecture on "Nursing Problems in Mass Disaster."

## Radiation Services

The Radiation Section continued to provide an advisory service to the Atomic Energy Control Board on the health supervision of the use of radioisotopes; in addition,

an advisory committee, consisting of leading experts, was formed to advise the AECB on the clinical use of radioisotopes. Applications to use these materials clinically were reviewed in terms of adequate facilities and training, and visits were made to ensure safe handling practices.

*Field Monitoring* — This service was continued, and it is interesting to note that since it was first made available in 1950 the number of people served per year has increased from 400 to 2600; approximately two-thirds of these persons are X-ray workers.

*Consultant Service* — Advice and information were given on a number of queries about the health aspects of ionizing radiation. The recommendations of the International Commission on Radiological Protection were summarized and presented in a pamphlet for distribution to radiation workers. In response to the increasing interest in protection in diagnostic X-ray departments, as expressed by radiologists and X-ray technicians, the Radiation Services prepared a pamphlet on this topic.

*Use of Atomic Energy* — During 1955 it became apparent that atomic energy would soon be widely used for peaceful purposes. Realizing the implications of widespread exposure to radiation, to the health of the population, the Department of National Health and Welfare formed an advisory committee on low level radiation. As a result of meetings of this committee, radiochemical analysis of certain constituents of the environment was started and plans made to study somatic and genetic effects of an increasing radiation background.

*Committee Membership and other Functions* — A member of the Radiation Services was named to the Canadian Association of Radiologists' Subcommittee on Units, Standards and Protection, which made recommendations about shoe-fitting fluoroscopes, protection of the patient during radiography and leak testing of radium needles.

### **Air Pollution Consultant Service**

Owing to the growing importance of atmospheric pollution, the Department established in January, 1956 an Atmospheric Pollution Service within the Occupational Health Division.

### **Educational and Technical Information Services**

Of primary concern to the Division is health education, and to this end it continued publication of the *Occupational Health Bulletin*, the *Occupational Health Review*, the *Pesticide Bulletin* and the *Occupational Health News Letter*. Each publication is designed for a specific group of readers.

During the year the material for two pamphlets dealing with respiratory protection and solvents, respectively, was prepared. In addition, a number of articles from the *Occupational Health Bulletin* and the *Occupational Health Review* were reprinted in pamphlet form to satisfy increased demands for information. Such articles as "Static Electricity," "Common Industrial Injuries," "Carbon Monoxide," "Carbon Tetrachloride" and "Small Plant Health Services" were thus reprinted.

Three posters, two on eye protection and one on skin protection, were prepared and will be available in the new fiscal year.

*Guide to Diagnosis of Occupational Diseases* — This handbook was still in high demand and many copies were distributed throughout the year in response to requests both from Canada and abroad.

There was a very significant increase in the number of requests for occupational health materials from school teachers, health educators, nursing instructors and other



teaching personnel which would indicate an increased interest in this particular aspect of public health.

### National and International Representation

Several members of the division's professional staff serve on various national and international committees and boards.

The chief of the Division was the Canadian representative to the United Nations Scientific Committee on the Effects of Atomic Radiation which met in New York, March 14-25, 1956. The chief of the Laboratory Services attended the fourth session of the Chemical Industries Committee of the I.L.O., Geneva, Switzerland, as one of two Canadian delegates. The nursing consultant is a member of the Education Committee of the American Association of Industrial Nurses and serves on the editorial board of *Nursing World*. The Medical Consultant of the Radiation Service is a member of a committee of the International Commission on Radiation Protection which is concerned with the handling and disposal of radioactive isotopes.

### PUBLIC HEALTH ENGINEERING

During the past fiscal year the activities of this Division have remained essentially the same as in other years. The development of a sound shellfish program for the Province of Quebec has been effected, and extensive water quality studies were conducted in the shellfish areas of that province in cooperation with the Laboratory of Hygiene and provincial officials.

Pollution studies of various water courses continued to form an active part of the division's work. Many special projects have been studied and field investigations made at the request of other departments on matters pertaining to water supply and sewage disposal. The continued growth and industrial expansion taking place in Canada today has focussed attention on the need for specialized knowledge and research in public health engineering, and these problems are receiving particular attention.

The development of radar stations required that special emphasis be given to the question of sanitary conditions in construction camps in the far North and in others connected with National Defence projects and railway extension programs during the past year. Increased development in the far north has also presented special problems in the design of water and sewer services and the disposal of wastes.

Some changes in personnel took place during the year within the division's organization which consists of seven district and two sub-district offices. The lack of engineering recruits over the past few years has presented certain difficulties in the administration of statutory functions. Routine examinations associated therewith have been given as much attention as possible with a reduced staff. The many requests and opportunities for rendering valuable service to other departments on special problems related to environmental health have required increased attention during the year, and at times these requests have been given preference over other work.

The division has certain responsibilities by statutory authority on those phases of the environment having a bearing on the health of travellers, of operating personnel of railways, vessels and aircraft; of visitors to national parks and other federal property and of employees residing in camps on federal construction projects. International agreements governing the handling and shipping of shellfish and the enforcement of these protective measures form an important phase of the division's activities and responsibilities.

### Cooperation With Other Federal Agencies

The time and attention given to special projects at the request of other federal departments have formed an important part of the work carried on during the past year. Participation in the work associated with the relocation of Aklavik continued and involved attendance at a number of meetings. Officials of the Department most directly concerned consulted the division's district engineers on water, sewage and sanitation problems associated with this program. Advice was also sought by and recommendations made to the Department of National Defence and Defence Construction (1951) Limited on the establishment of water and sewage services in the far north. Many of these construction projects were visited and reported upon with recommendations being forwarded to the appropriate federal authorities for their attention. Field surveys were made and a sewage disposal system is being designed for a Defence Research Board location in Western Canada.

Continued assistance was maintained in the promotion of good operational technique at sewage treatment plants constructed by the Department of National Defence. New plants under construction were also assessed and recommendations made concerning their adequacy.

Engineering studies were requested at a number of existing federal sewage plants where present-day conditions warrant either an enlargement of the treatment facilities or the development of a more modern type of sewage treatment. Studies were continued at Valcartier in Quebec in regard to sewage disposal at the Small Arms establishment, lagooning of laboratory wastes at CARDE and the removal of oil from the arsenal wastes. Water quality studies were also made at the Cherrier plant of Canadian Arsenals Limited where prechlorination was found advisable as a treatment procedure.

Close cooperation was maintained with the Indian Health Services Directorate of this Department and with the Indian Affairs Branch of the Department of Citizenship and Immigration on matters of water supply, sewage disposal and on other aspects of environmental sanitation in the protection of the health of Indians at various reservations, residential Indian schools and hospitals. In this connection, 45 engineering studies and field surveys were carried out. The water supply and sewage disposal systems at the Moose Factory Indian Hospital, where extensive changes are required to meet present and anticipated future service demands, is cited as one of the major studies undertaken by the Division during the past year. Other time-consuming studies included the engineering survey at the Manowan Indian Reserve, which involved the collection of field data required for the preparation of plans to show in detail pumping arrangements, water intake location, and layout of the distribution system. Surveillance over control of water supply treatment was maintained through repeated visits to locations where outbreaks of disease, presumed to be water-borne, had been reported.

Field studies in the far north in cooperation with the Department of Northern Affairs and National Resources during the year include sanitary surveys of northern settlements; the examination and water quality assessment of Elk Island National Park water supplies; and the collection of field data relevant to the construction of a water and sewage system for the Town of Whitehorse and the new proposed townsite located on the opposite side of the river where a Northern Health Services hospital is planned. The plans of the proposed water and sewerage system as prepared by a firm of consulting engineers received careful study by the engineers of this division in relation to present and future requirements for sewage treatment facilities as proposed in the development plan for Whitehorse and the new townsite area. Future developments in this area and the possibility that the flow in the Yukon River in that vicinity may be reversed at a later date to increase the output of hydro-electric power made it necessary to give considerable time and study in evaluating the proposed water and sewerage systems. Other works associated with federal interest included water and sewage treatment at

Fort St. John and at Port Radium, the center of activities of Eldorado Mining and Refining Limited.

As in other years close liaison was maintained with the National Parks Branch on problems of mutual concern. Special projects conducted at their request during the year included: a water quality study of Waterton Lake in Waterton Lake National Park; investigation of the sewerage system and sewage treatment facilities serving the Waterton Lake townsite, to determine the remedial measures required to overcome present operating difficulties resulting from poor flow characteristics and flooding of treatment units; participation in a special study in the control and improvement of water quality at the Banff Hot Springs swimming pools; and a review of sewage problems subsequent to the preparation of a report on the requirements for adequate sewage treatment facilities at the new Alexander Graham Bell Museum at Baddeck, N.S., to assure protection to shellfish producing areas.

### **Public Works Health Act and Regulations**

The development of radar warning stations at selected points throughout the far north made it necessary for this Division to give special attention to problems of water supply, sewage disposal and sanitation of construction camps. Both temporary and permanent installations of these services had to be considered. The health aspects of camp sanitation and food handling in the protection of construction crews created many problems peculiar to the far north alone. In this connection, 16 visits were made to various sites by engineers of the Division. Technical assistance was given through conferences with officials of the construction companies responsible for the building of these radar stations. The response by the companies to recommendations made in the handling of the various environmental health problems encountered has been most gratifying. Adherence to sound public health principles of sanitation has been evident in the camps visited to date. In addition, 77 separate examinations were carried out under this Act, principally for the Department of National Defence (Army) project at Gagetown, N.B. Railway extension programs in the Quebec area from Beattyville to Chibougamau and at Schefferville (Knob Lake) also received attention in respect to construction camp sanitation under these regulations.

### **International Joint Commission**

The Division continued to be represented on a number of Advisory Boards to the International Joint Commission which deal with problems of water and air pollution. Its members participated in conferences held under the Commission's auspices. Projects initiated by the Advisory Boards and participated in by engineers of this division during the year with respect to pollution control of the boundary waters included a phenol survey of Lake Erie, a water quality study of Lake St. Clair and the installation of carbon filters at selected river points in the Sarnia area. This latter work was initiated to determine by the carbon filter extraction technique the concentration and the types of substances present in the waters of the St. Clair and Detroit Rivers and the relationship of these contaminants to taste and odour disturbances in downstream municipal water supplies. Several reported occurrences of tastes and odours in municipal water supplies in the Sarnia-Windsor-Detroit area during the past year received special study. These occurrences focused attention on the need for constant surveillance and control of the discharge of polluting materials into these waters.

### **Provincial Cooperation**

As in past years the Division, through committees and by liaison with health officials, maintained close cooperation with all provincial agencies on problems relating to environmental sanitation. Although no major incidents of taste and odour occurrences in municipal water supplies were reported by the Alberta health authorities in the



North Saskatchewan River area, close contact was maintained with officers of the provincial Health Department with respect to river water quality and measures taken for the abatement of pollution and control of wastes discharged into this water course.

At the request of the Newfoundland Department of Health assistance was given by the Division in a study made to improve the municipal water supply systems presently serving Curling and Cornerbrook. An algae problem attributed to the discharge of sewage treatment plant effluents into Lac St. Denis, Quebec, was studied following complaints by local residents. The results of this study indicated the need for the removal of the sewage outfall from the Lake, and this matter is under active consideration at the moment by the Department of National Defence (Air).

### **Water Treatment Problems**

Problems due to the presence of iron bacteria in water supplies received special study during the year. At Sydney, N.S., and at Lac-des-Loups, Quebec, at the request of the Department of Transport, microscopic examinations were carried out to identify and type the iron bacteria presumed present, and iron removal experiments were conducted in an effort to improve the quality of water at these two points. Research through field experiments was continued in the application of copper sulphate to the water supply at Bowness, Alberta, in the control of iron bacteria growths. This water supply is under the control of the Department of Veterans Affairs, and it is through their desire and cooperation that these studies were initiated and are being continued.

### **Shellfish Control**

Control of the shellfish industry continued to require much time and effort in those provinces in which shellfish are produced commercially for export. The watershed, extending 40 miles east from Point Miguasha in the Baie-de-Chaleur, was surveyed in company with public health engineers attached to the Quebec Department of Health. Assistance in this survey was supplied by the federal Laboratory of Hygiene through the use of its mobile laboratory. Initial surveys and re-surveys of shellfish-producing areas were conducted throughout Prince Edward Island, Nova Scotia and New Brunswick, consistent with the need to obtain current data on existing water quality conditions overlying active shellfish-producing areas. Careful surveillance of all toxicity reports for individual areas was maintained, and closure proceedings were taken for those areas where high toxicity levels warranted such action. Throughout the growing season regular examinations of commercial shellfish plants were made. Irregularities in processing and handling of the shucked shellfish or in matters of general sanitation, observed during these routine examinations, were brought to the attention of the Department of Fisheries for necessary remedial action. In British Columbia the cooperative control program has been continued with the Department of Health and Welfare.

### **Laboratory Services**

During the year the analytical services formerly handled at the laboratory at William Head, B.C., were temporarily suspended due to the retirement of the Division's chemist, Mr. F. E. Artlett. Arrangements were made with the Food and Drug Laboratories at Vancouver to continue this service on a limited basis until a replacement was obtained.

The laboratory facilities at St. Catharines, Ont., continued to render service to federal departments for chemical and mineral analyses of water supplies. These facilities continued to be hard pressed due to staff limitation in keeping abreast of the analytical services requested. Special problems related to the presence of iron bacteria in public water supplies, the fluoride content of domestic raw water sources, and other aspects of water quality, such as corrosion and hardness control, were studied. Effective treat-



ment and control procedures were recommended to the authorities concerned, based on the analytical findings and on an appraisal of the particular problem involved.

### Grants

For the fiscal year 1955-56 more than \$771,110 was allotted under the National Health program for the support of environmental sanitation services. Of this figure, \$108,430 was for training purposes, \$68,734 for research and \$593,946 for the employment of staff for local health units and city health departments.

### Educational Services

A number of technical papers were presented before professional gatherings or conferences by members of the Division. Lectures on water treatment and vessel sanitation were given to student officers at Marine Schools in Quebec. A series of lectures was given to fisheries inspectors in Ontario on water supplies for fish processing plants, waste and offal disposal and on other related sanitation problems. This was done at the special request of the federal Department of Fisheries. On two occasions the Division participated in emergency feeding courses at the Civil Defence College, Arnprior, Ont., by presenting lectures on water supply and food sanitation problems.

The Division continued to publish the monthly news bulletin "Public Health Engineering in Canada" at the request of the Advisory Committee on Public Health Engineering. No new publications were printed during the year owing to the utilization of available funds to reprint certain existing publications such as "Domestic Sewage Disposal", "Rural Waters" and others in both French and English, to meet the heavy demand for such material. A revision of those sections of the Civil Defence Health Service Manual dealing with water and sanitation was commenced by officers of this Division. This work is to be completed early in the new fiscal year. This revision was prompted by a change in concept of the civil defence program with respect to the emphasis now placed on the need to evacuate populations from target areas in the event of attack.

### Training Courses

Training for certain division personnel in specific phases of public health engineering was possible on several occasions by taking advantage of short courses at the Robert A. Taft Sanitary Engineering Centre at Cincinnati and by attendance at industrial waste conferences. A seminar on industrial wastes problems arranged by the Ontario Department of Health proved to be of much value to the Division both in exchange of technical data and the experience gained in the discussion of treatment methods in dealing with industrial wastes of a complex character.

### Field Work Summary

In all, 626 sanitary surveys of water supplies, ice supplies (natural and artificial) and shellfish growing areas were conducted. A total of 5,003 water samples, 124 ice samples, 35 sewage effluent samples and 118 milk samples were taken for analysis. Some 764 examinations of railway property including stations, restaurants, bunkhouses, mobile work camps, coachyards and oil wastes disposal were made. A total of 109 examinations were made of sewage treatment plants to check their operation. During the year some 203 vessels' water systems were examined for compliance with statutory regulations, including nine new vessels under construction, for which plans were submitted to this division for review.

## Health Grants Administration

The eighth year of the National Health Grants program was marked by the continuation of advances made possible in previous years by federal grants-in-aid to the provinces specifically for the development of public health services, research, and hospital construction.

### Expenditures

Federal expenditures under this program totalled \$33,528,853 during the fiscal year. Payments to the provinces for the eight-year period now total more than \$188,250,000.

In almost all the 12 categories of grants, the percentage utilized by the provinces out of the total amount available increased. Particularly noteworthy were the increases in the fields of medical rehabilitation, child and maternal health and laboratory and radiological services. These three grants were inaugurated in the 1953-54 fiscal year, and the increase in expenditures indicates the growth of provincial programs in these important segments of public health.

### Public Health Progress

The various specialists within the Health Branch act as consultants to the Health Grants Administration on the public health aspects of projects within their special fields. References to the impact of the grants on particular public health problems will, accordingly, be found in appropriate sections of this Report.

In general, the grants are contributing to the extension of local health services in both rural and urban areas; the training and employment of many categories of health workers; the expansion of existing hospital buildings and the erection of new ones; the control of tuberculosis, venereal and other communicable diseases; the development of improved cancer diagnostic and treatment facilities, of laboratories for the diagnosis of disease and of medical rehabilitation services to restore patients to the maximum degree of health and productivity; the treatment of crippling conditions in children; the extension of services to prevent and treat mental illness; the improvement of care given to mothers and their children; and the encouragement of sound research in public health.

All these activities contribute not only to better health among the present generation of Canadians but will also have lasting effects for the future.

### Surveys and Studies

A report on the operation of the grants during their first seven years was prepared and issued under the title "National Health Program, 1948-1955". This report reviewed the major achievements of the grants and attempted to evaluate their influence on the development of public health in Canada.

In co-operation with the Dominion Bureau of Statistics, three additional bulletins based on data obtained in the 1950-51 Sickness Survey were issued. These dealt with national estimates of the incidence and prevalence of illness, of the volume of health care, and of the volume of health care for selected income groups.

During the year statistical and other information was supplied to other divisions of the Department to assist them in the preparation of studies and reports on trends and

developments in a variety of health fields, including tuberculosis control, hospital construction and programs of hospital and medical care insurance. In this connection, the Grants Administration gave attention to patterns of activity developing in other countries, particularly the United States, where comparable programs of grants-in-aid are operating.

## **Publications**

In September, 1955, a paper on "Unmet Health Needs in Health Care in Canada" was presented at the annual meeting of the Canadian Public Health Association. This was published in the January, 1956, number of the Canadian Journal of Public Health.

## **Provincial Co-operation**

During the year, both at meetings of the Dominion Council of Health and on other occasions, opportunities have been utilized to discuss with provincial health authorities their plans and programs, as well as day-to-day administrative problems. These exchanges of views have been most useful and have helped to maintain the spirit of federal-provincial co-operation which has characterized the grants program since its inception.

## **Health Insurance Studies**

As a result of the interest in Health Insurance manifested at the Dominion-Provincial Conference in the spring of 1955 Health Insurance was brought into sharper focus during the past year. At that time it became evident that a number of the provinces were interested in a discussion of federal-provincial arrangements for health insurance. The subject was further discussed at the fall meetings of the Dominion-Provincial Conference and, as a result of these discussions, a committee consisting of Ministers of Health and Ministers of Finance from both the federal and provincial governments was constituted to discuss the matter in further detail. A meeting of these ministers was held in January 1956. At that time the activities of the federal and provincial governments, in the field of health, were reviewed in detail as were the activities of voluntary agencies providing insurance coverage for hospitalization, medical care and related services.

During the January meeting an offer was made by the federal government to provide financial and technical assistance to provincially-organized and administered programs for the provision of hospital care and diagnostic services, if a majority of the provinces representing a majority of the population were prepared to organize and administer these programs. It was indicated that the federal government would then be prepared to recommend to Parliament that it provide, by legislation, grants to cover a share of the cost of these elements of Health Insurance.

In order to qualify, the provinces should make coverage for hospital services universally available to all persons in the province and may include provision of specified diagnostic (laboratory and radiological) services to persons in hospital or to outpatients. At the same time provision should be made for a limit to be placed on co-insurance or deterrent charges so as to ensure that an excessive financial burden is not placed on patients in respect of hospitalization costs at the time of receipt of service. Shareable costs would be determined on the basis of normal operating and maintenance costs insofar as these relate to standard ward care. These shareable costs would not include the following items: capital costs, extra costs properly attributable to the provision of semi-private and private ward care, the uninsured portion of a patient's hospitalization

costs, and provincial administrative costs. Costs of care provided to patients entitled to care under DVA, Workmen's Compensation, third party liability, or similar arrangements, would also be deducted in determining shareable costs. There would likewise be excluded from any plan in which the federal Government would share, the costs of caring for patients in mental hospitals or TB sanatoria. The federal Government will pay to each province which operates a recognized plan a portion of the "shareable" costs as follows: (a) 25 per cent of the average per capital costs for hospital services in Canada as a whole; plus (b) 25 per cent of the average per capita costs in the province itself.

Since that time three provinces have indicated their acceptance in principle of the federal offer and discussions are now going forward at the official level regarding details of these programs.

These developments in the health insurance field called for extensive research and technical study covering the whole field of health care. For example, the Health Insurance Studies section, in co-operation with the Research and Statistics Division, prepared necessary documents covering existing health services in Canada at both the federal and provincial level as well as programs sponsored by voluntary insurance agencies.

At the same time a number of publications concerned with the development of programs for the provision of medical and hospital care has been released. During the past year the following reports have been prepared and distributed: *Selected Public Hospital and Medical Care Plans in Canada*; *Voluntary Medical and Hospital Insurance in Canada*; *Health Care in Canada*; *Expenditures and Sources of Revenue, 1953*; *Hospitals in Canada*; *Tuberculosis Services in Canada and Government Expenditures and Related Data on Health and Social Welfare, 1947 to 1953*. The following publications concerned with the Canadian Sickness Survey were produced co-operatively during the year by the Dominion Bureau of Statistics and the Department of National Health and Welfare: *Incidence and Prevalence of Illness* and *Volume of Health Care for Selected Income Groups*.

Work was continued on a proposed publication *Canada's Health Services*, which is based on the health surveys financed by the National Health Grant Program and it is anticipated that the major part of this work will be published during the year 1956-57. Foreign developments, particularly in Scandinavia and the United Kingdom, have been kept under review and further material will be published during the next year covering European programs.

## Research Development Services

### MEDICAL RESEARCH

The scientific research program for the fiscal year 1955-56 involved a total of \$2,495,822.01. Of this amount \$569,700. was made available for intramural medical research, \$202,085. for socio-economic research in health and welfare, \$1,619,254.91 for extramural grants-in-aid of medical research and \$104,782.10 for research sponsored by the National Cancer Institute of Canada.

The intramural program encompasses those investigations carried on by the various technical and scientific units of the Department and, in general, is aimed at devising new or improved methods of performing the service functions of these divisions. It refers particularly to detection and assay work, e.g., that associated with the administration of the Food and Drugs Act, and studies of new techniques such as in the control



of biological products or the investigation of occupational hazards. Additionally, however, it may be aimed at gaining new knowledge of public health importance or related to urgent national health problems of a nature not ordinarily undertaken by a single province, university or research institution, concerning which the Department may be looked to for leadership and guidance.

Estimated allocations for the intramural research program for 1955-56 are presented at the end of this section in Table 7 according to the divisions concerned. It should be borne in mind that the almost inseparable relationship of research to service functions throughout the intramural program makes it difficult to determine as precisely as might be desired the proportion of the cost which can properly be designated as research expenditure. In many instances the research is a by-product of the service function.

Allocations by the Research and Statistics Division for socio-economic studies in health and welfare have not been included in this table because of the dissimilarity, in general, from the research carried on in the other divisions. Detailed reference is made to the activities of this Division in a special section of this Report.

The extramural program consists of grants-in-aid of medical research conducted in universities, hospitals and other research institutions from funds provided under the National Health Program. This began in 1948 with an amount of \$100,000 initially in the Public Health Research Grant. Each succeeding year this was increased by a like sum up to a maximum of slightly more than \$500,000, at which level it now stands. Additionally, allocations from other health grants have been made in support of medical research centered generally in the field for which the grant is specifically designated.

For the 1955-56 fiscal year funds devoted to medical research under all grants amounted to almost \$1,620,000. Specific allocations according to grant and province will be seen in Table 8. The allotment from the Cancer Control Grant totalling \$104,782.10 is matched by provincial funds and utilized under the auspices and supervision of the National Cancer Institute of Canada for fundamental research in this field.

In Table 9 details of allocations, numbers of projects and percentages of the total funds are presented, according to the field of medicine concerned. Table 10 includes like information on the basis of the disease entity being studied. So far as the fields of medicine and disease entities are concerned, individual areas are not clearly defined, particularly in the former case, and there tends to be considerable overlapping, e.g., those designated as biochemistry studies may also have a definite relationship to cardiology or to psychiatry. Similarly, studies in the field of cardiology may also have a significant component of animal experimentation.

In broad general categories according to the field of medicine, investigations which might be classified as clinical account for some 40 per cent of the total. In this group those in the fields of cardiology, neurology, geriatrics and internal medicine cover about 21 per cent, while psychiatric and psychological research make up 19 per cent. Basic studies such as those in biochemistry, pharmacology and therapeutics, pathology and physiology involve more than 23 per cent and studies in the general field of bacteriology, including virology, B.C.G. and the tubercule bacillus, make up better than 16 per cent of the total. Those related to the birth period, infants and children total 7 per cent, while research on administrative aspects, medical economics and epidemiology amount to 3 per cent.

In regard to disease entities, a large proportion, nearly 25 per cent, cannot be classified because of the non-specificity of the objective of the research or the complete

absence of any relationship to a disease. Excluding this group, it is found that more than 31 per cent of the remaining studies deal with tuberculosis and other respiratory diseases, influenza and other infectious conditions. Psychosis, neurosis and psychoneurosis are involved in about 20 per cent, heart, arteriosclerosis and hypertension total some 13 per cent and diseases associated with pregnancy and the neo-natal period more than 7 per cent.

Table 7

## ALLOCATIONS FOR INTRAMURAL RESEARCH PROGRAMS

1955-56

<i>Division</i>	<i>Estimated Expenditure</i>
Civil Aviation Medicine.....	\$ 2,500
Dental Health .....	18,000
Epidemiology .....	31,000
Food and Drug Directorate.....	112,000
Laboratory of Hygiene.....	257,000
Nutrition .....	35,000
Occupational Health .....	114,200
Total.....	<u>\$569,700</u>

TABLE 8

## ALLOCATIONS FOR RESEARCH UNDER THE NATIONAL HEALTH PROGRAM

By HEALTH GRANT AND BY PROVINCE — 1955-1956

Province	Crippled Children	Venereal Disease	Mental Health	Tuberculosis Control	Public Health Research	General Public Health	Child and Maternal Health	Total
Nova Scotia			30,000.00		20,421.66			59,421.66
New Brunswick			4,800.00		6,841.66			11,641.66
Quebec		575.00	156,763.60	17,990.00	203,021.20	127,707.95	8,343.50	514,401.25
Ontario	42,046.38		252,838.14	74,499.97	185,560.20	177,212.56	43,004.00	775,251.25
Manitoba			14,838.50		15,493.75	17,320.00	17,320.00	64,972.25
Saskatchewan			47,691.73	8,899.61	24,240.00			80,831.34
British Columbia			70,541.75		34,493.75	1,700.00		106,735.50
Northwest Territories					6,000.00			6,000.00
TOTAL	\$ 42,046.38	\$ 575.00	\$577,473.72	\$101,389.58	\$505,072.22	\$323,940.51	\$ 68,757.50	\$1,619,254.91

Note — Assistance to National Cancer Institute: P.E.I. .... \$ 905.00 New Brunswick ..... \$ 7,500.00 Quebec ..... \$36,209.60  
 Ontario ..... 41,831.00 Manitoba ..... 11,000.00 Saskatchewan ..... 7,336.50  
 TOTAL ..... \$104,782.10

TABLE 9  
RESEARCH ACCORDING TO FIELD OF MEDICINE  
NATIONAL HEALTH PROGRAM—1955-56

Field of Medicine	Amount	No. of Projects	Percent of Total
Psychiatry and Psychology.....	\$ 308,070.03	19	19.0
Biochemistry.....	152,617.85	18	9.5
Virology.....	130,956.38	14	8.1
Pharmacology and Therapeutics.....	127,868.22	19	7.9
Cardiology.....	120,072.75	18	7.4
Neurology.....	105,330.00	13	6.5
Bacteriology.....	67,820.70	14	4.2
Tubercle Bacillus including B.C.G.....	63,145.60	15	3.9
Obstetrics and Gynaecology.....	58,626.20	8	3.6
Special Senses.....	55,365.80	6	3.4
Pediatrics.....	51,347.93	6	3.2
Geriatrics.....	43,249.85	2	2.7
Tuberculosis.....	37,620.16	6	2.3
Pathology.....	36,518.17	6	2.2
Internal Medicine.....	35,878.08	6	2.2
Physiology.....	31,782.50	5	2.0
Hematology.....	29,588.80	5	1.8
Administration.....	24,752.66	5	1.5
Epidemiology.....	24,426.00	2	1.5
Other—Miscellaneous.....	114,217.23	17	7.1
<b>TOTAL.....</b>	<b>\$1,619,254.91</b>	<b>204</b>	<b>100.0</b>

TABLE 10  
RESEARCH ACCORDING TO DISEASE ENTITY  
NATIONAL HEALTH PROGRAM—1955-56

Disease Entity	Amount	No. of Projects	Percent of Total
Unclassifiable*.....	\$ 383,140.24	37	23.6
Psychosis.....	243,615.72	19	15.0 (19.8)
Tuberculosis (Respiratory).....	154,996.62	29	9.6 (12.6)
Heart Disease.....	139,798.75	21	8.7 (11.3)
Infectious Disease.....	135,932.17	18	8.4 (10.9)
Other Respiratory.....	75,716.37	8	4.7 (6.1)
Eye.....	67,604.26	6	4.2 (5.5)
Neonatal Period.....	58,535.70	10	3.6 (4.7)
Nervous System.....	57,978.25	9	3.6 (4.7)
Bones and Organs of Movement.....	47,572.01	8	2.9 (3.8)
Pregnancy.....	33,106.80	6	2.0 (2.7)
Poisoning, Alcoholism and Drug Addiction.....	28,800.00	2	1.8 (2.3)
Mouth and Teeth.....	25,612.20	2	1.6 (2.1)
Arteriosclerosis and Hypertension.....	20,000.00	1	1.2 (1.6)
Accidents.....	18,875.25	2	1.2 (1.5)
Influenza.....	12,779.62	2	0.8 (1.0)
Blood Disorders.....	12,023.50	2	0.7 (1.0)
Neurosis and Psychoneurosis.....	11,311.25	2	0.7 (0.9)
Tuberculosis—Other Forms.....	11,800.00	3	0.7 (0.9)
Liver, Gall Bladder, etc.....	10,650.00	2	0.7 (0.9)
Other—Miscellaneous.....	69,906.20	15	4.3 (5.6)
<b>TOTAL.....</b>	<b>\$1,619,254.91</b>	<b>204</b>	<b>100.0 (100.0)</b>

\* No specific disease involved.

(Epidemiology Division follows).



## EPIDEMIOLOGY DIVISION

During the year this Division has continued its efforts in the investigation and control of disease. Although the decline in the relative importance of the communicable diseases has indicated some redirection of efforts towards the chronic diseases and conditions such as accidents, which are assuming increasing importance in public health, the investigation of specific communicable disease problems has been of considerable interest. Among the activities of the Epidemiology Division, particular mention may be made of the following.

*Poliomyelitis* continued to be the communicable disease foremost in public attention, and the widespread use of poliomyelitis vaccine in all Canadian provinces during the year presented an opportunity to evaluate its effectiveness in preventing the paralytic complications of this disease. With the co-operation of the provincial health departments, a careful account was made of all paralytic cases of poliomyelitis occurring between July 1 and November 30 in children of selected ages who had received two or more doses of vaccine in 1955 prior to July 1, and in an observed control group of unvaccinated children of comparable ages. This enabled a comparison of paralytic attack rates in vaccinated and unprotected children to be made.

Although the general incidence of paralytic poliomyelitis in Canada was exceptionally low in 1955, it was possible to demonstrate that in all provinces where paralytic poliomyelitis occurred in the vaccinated or unvaccinated groups, the attack rates in the unvaccinated exceeded the attack rates in the vaccinated during the period of observation. Plans are being made to continue the evaluation of the vaccine during the 1956 poliomyelitis season.

Weekly telegraphic reports of the occurrence of poliomyelitis during the poliomyelitis "season" were received from each province. These reports were analysed and consolidated, and weekly statements on the current situation were supplied to interested agencies in Canada and other countries.

*Tuberculosis*—The decline in tuberculosis mortality and morbidity continued in the year under review. It is significant that, although morbidity continues to decline, it has not kept pace with the decline in mortality. The Tuberculosis Control Grant of the National Health Program continued to play an important part in the control of tuberculosis. The Epidemiology Division gave continued assistance to the Principal Medical Officer administering the National Health Grants in connection with the Tuberculosis Control Grant.

This Division participated in the preparation of "Trends in Tuberculosis Incidence and Control, 1938-1953", a collection of data which allows an evaluation to be made of trends over the past few years with the objective of facilitating control measures for the future. This useful publication has also been revised and brought up to date.

*Veneral Diseases*—The decline in the incidence of venereal diseases in recent years continued in 1955 and, as in tuberculosis, the support given to provincial venereal disease control divisions by the Venereal Disease Control Grant has contributed to this decline. This Division has continued to advise the Principal Medical Officer of the National Health Grants in the administration of the Venereal Disease Control Grant.

Revision of the booklet "Venereal Disease — What You Should Know" for lay educational use in venereal disease control programs has been completed. Statistical data concerning the venereal diseases have been collected and analysed, and the publication of the semi-annual Statistical Report on the Incidence of Venereal Diseases in Canada has been continued.

*Influenza*—This Division, as a member of the Canadian Influenza Information Centre, has provided a service for the collection and dissemination of information concerning the occurrence of influenza-like disease in epidemic form in Canada and other countries.

*Reporting of Communicable Diseases*—A review of existing communicable disease reporting and control procedures has been in progress for some time, but as an outcome of a meeting of provincial communicable disease control directors in May, 1955, substantial progress was made during the year. A minimum list of communicable diseases designated as reportable was agreed upon, and uniform measures for their control were accepted in principle. In association with the Dominion Bureau of Statistics, methods of reporting communicable diseases are under review which will lead to improvement in the reporting of these diseases.

*Home Accidents*—Accidents are the fourth leading cause of death in Canada, and in ages five to 45 years, accidents kill more Canadians than any other single cause. Accidents occurring in the home occupy an important place in the accident picture since approximately 27 per cent of all accidental deaths occur as a result of home accidents. This Division completed during the past year a study of 1,000 home accidents resulting in injury requiring treatment in hospital out-patient departments, with particular attention to the type of accident and injury that occurred, and the environmental and personal factors contributing to their causation.

*Lung Cancer* is a disease of increasing prevalence, particularly in males, and has now outstripped tuberculosis as a cause of death in Canada. This Division, in association with the Department of Veterans Affairs, has in progress a study to investigate the relationship of urban and rural residence, occupation and smoking habits, to death from lung cancer and certain other selected causes in a large population.

*Effects of Air Pollution on Health* is a problem receiving an increasing amount of attention in Canada and elsewhere. This Division participated in the planning and conduct of a two-year study in the Detroit-Windsor area to evaluate methods of approach and, if possible, to determine what effects on health, if any, would be expected to result from the levels of air pollution present in those areas. The field work of the study was completed in June, 1955, and the data obtained are now being analysed.

*The Technical Information Section* of the Division regularly receives some 150 medical journals and reports. Articles pertinent to the work of the Division are abstracted and indexed, and reprints are obtained of articles of particular interest. Some 12,000 subject cards and 9,000 author cards are kept on file in addition to 4,000 reports and reprints of articles. This continuing review of current material is invaluable for divisional purposes and for answering the hundreds of requests for information received each year on a wide variety of subjects.

## LABORATORY OF HYGIENE

As Canada's national reference laboratory in the field of public health, the Laboratory of Hygiene continued to play a leading role in major health conservation activities during the past year. It performed vital services in connection with the control and testing of poliomyelitis and other vaccines and carried on investigations and research in many related scientific fields.

The Laboratory of Hygiene embraces bacteriological, biologics control, clinical, biochemical research, virus and zoonoses laboratories, with associated animal breeding and test animal colonies, as well as extensive administrative services required in connection with the highly scientific procedures performed by its specialists.

Activities in the various phases of the work of the Laboratory of Hygiene are reviewed in the following reports of its component units.

### Bacteriological Laboratories

These laboratories consist of three main sub-subsections—1) *Enteric Bacteriology*, 2) *Sanitary Bacteriology* and 3) *General Bacteriology*, with a total establishment of 16 professional or technical persons. In general, the aims of the Laboratories are 1) to provide technical assistance to the provinces by supplying carefully standardized diagnostic reagents, by performing special tests (not practicable at the provincial level) by acting as a national reference centre for the identification of special groups of organisms, and by giving special training to key laboratory personnel, 2) to assist other branches of government with the sanitary control of shellfish-producing waters and of restaurants and 3) to conduct research and special investigations. The Section succeeded in meeting all its commitments but the research and special investigation seriously suffered due to staff shortage.

*Enteric Bacteriology.* The Enteric Bacteriology Section embraces the National Salmonella and Shigella Typing and Reference Centres for Canada. In addition to the diagnostic service provided by these centres to the provincial Departments of Health and D.V.A. Hospital Laboratories in the identification of all members of the enterobacteriaceae, diagnostic reagents were supplied to all laboratories. With the addition of Ontario recently to its distribution list, this Laboratory is now supplying all the provincial laboratories with all the Salmonella antigen suspensions which they use. The diagnostic reagents prepared and distributed by this Laboratory consisted of 10 Salmonella antigen suspensions, 4 Salmonella Polyvalent sera, 7 Salmonella O grouping sera, 11 Salmonella Diagnostic H sera, 5 Shigella Polyvalent sera, 2 *Esch. coli* serum pools, 19 *E. coli* diagnostic sera and 2 Alkalescens-Dispar Polyvalent O sera. The preparation of diagnostic sera is expensive and time-consuming, requiring the preparation of vaccines, the inoculation of rabbits, testing and absorption of sera — and each year the demands for this sera increase.

This year, 1,873 ml. of sera were distributed as against 1,392 ml. last year, an increase of 34.5 per cent. A total of 231,750 ml. of standard antigen suspensions were distributed during the year. With the additional supplies now required by Ontario, there will be a further increase of these reagents to be supplied during the next year. Also, 723 cultures were received for special identification, 506 of which were identified as Salmonella and serotyped, 117 as Shigella, 11 as Alkalescens-Dispar, 23 as *E. coli* and 66 as belonging to other genera.

Information was collected on the distribution of these organisms in Canada and reports were issued quarterly to the provincial laboratory directors and annually to the Technical Advisory Committee on the incidence and special epidemiological features of the infections caused by these organisms.

Twenty-three different Salmonella serotypes were isolated from the strains of human origin and 15 from the animal strains. The predominant types among the 'human' strains received were *S. typhi-murium* (31.7%), *S. heidelberg* (15.7%), *S. newport* (15.7%), *S. typhi* (12.8%) and *S. paratyphi B* (6.4%) and among the animal strains *S. typhi-murium* (31.3%) *S. gallinarum-pullorum* (15.2%), *S. thompson* (11.4%) and *S. bredeney* (8.4%).

Two types were reported in Canada for the first time during the year. *S. illinois* was isolated from a woman in Quebec in May and *S. siegburg* from a baby with diarrhea, in Vancouver, in December and later from two children in Regina in February.



The most common *Shigella* type received was *Shig. sonnei*, which accounted for 67.5 per cent of all strains received. Attention has been drawn in England and Wales to a change during the last 20 years in dysentery from a comparatively rare and fatal disease with a case fatality rate of 39 per cent to a mild and widely prevalent disease with a case fatality rate of less than 1 per cent. This change is attributed almost entirely to the rapidly increasing prevalence of Sonne dysentery. The same picture seems to be evolving in this country. Alberta, Ontario and British Columbia showed a high incidence of infection and *Shigella sonnei* was isolated from over 80 per cent of the reported *Shigella* infections.

Active research was carried out on the application and limitations of bacteriophage in inducing antigenic and morphological changes in the *Salmonellae*. This entailed a study of the various factors affecting 'transduction', such as time, temperature, absorption media with respect to the valency of electrolyte used, capacity of various cells to function as donors and recipients of genetic material carried by phage, and finally practical applications of transduction in the laboratory. Transducing phage was isolated from a hitherto unreported source and new morphological variants of certain types reported for the first time. This phenomenon has important implications in the epidemiology of salmonellosis and practical applications in the routine identification of strains of salmonella. It has proved most useful in restoring motility to non-motile, and therefore untypable, strains and thus permitting their identification by serological analysis. Additional studies showed a wide distribution of these transducing phages in strains isolated in Canada.

Diarrhea continues to be serious cause of loss in the monkey colony. Two pathogens—*S. typhi-murium* and *Shig. flexneri 2a* were isolated from diseased animals. Antibiotic sensitivity tests indicated the choice of drug for treatment and the monkeys were fed this in their diet with encouraging results.

For four months, this Laboratory had for special training in enteric bacteriology, under the Colombo Plan, Captain S.B.V. Rao, Research Officer, Indian Veterinary Research Institute, and the opportunity of lending assistance to India was welcomed. In addition to the special training, a gift was made to Dr. Rao of 42 different antisera (520 ml.) together with 72 lyophilized stock cultures to allow him to establish a diagnostic unit in India.

*Sanitary Bacteriology.* An important activity of the Sanitary Bacteriology Section is the bacteriological control of shellfish-producing areas in the eastern Maritime Provinces. Routine surveys of areas are carried out during the summer in a mobile laboratory. Results of these surveys, together with sanitary surveys carried out by officers of the Public Health Engineering Division, form the basis for the closure or approval of areas for the taking of shellfish and for the certification of shippers by the Department for export of shellfish to the United States. In all this work close collaboration is maintained with the Department of Fisheries and with the U.S.P.H.S.

An increased demand for soft shell clams for export to the U.S. caused the Province of Quebec to consider the exploitation of clam stocks and to seek the advice and assistance of the Department in the control of clam producing areas within the province. For the first time a bacteriological survey was carried out by the Mobile Laboratory team in cooperation with the Quebec Department of Health; a 35 mile portion of the Baie de Chaleur coast between Point Miguasha and Cap Noir was studied, and recommendations for the closure of six separate portions of the area on account of sewage pollution were made.

Bacteriological surveys were also carried out in the Jacquet and Eel Rivers, N.B. and in Wallace Harbour, N.S.



A total of 1,364 water and shellfish specimens were collected and tested in the course of these surveys and reports and recommendations were presented to the Inter-departmental Shellfish Committee.

*Shellfish Toxicity Control.* The scheme used in 1953-55 for the routine control of toxicity in clams and mussels was again followed in 1955-56. A total of 654 shellfish extracts, collected from the following sources were tested for "paralytic shellfish poison" during the year:

New Brunswick	204
Nova Scotia	31
Quebec (south shore)	314
Quebec (north shore)	92
Canned clams	13

The lowest maximum on record, 420 mouse units, was observed at the Bay of Fundy key station; the remaining Fundy and Baie de Chaleur areas showed no evidence of toxicity and consequently no closures were necessary.

The Metis Beach — Baie des Capucins area on the south shore of the St. Lawrence River, where tragic poisonings occurred in 1954, was again dangerously toxic throughout the sampling period and the permanent closure of this area remains in effect. The remainder of the study areas on the south and north shores are affected seasonally, and careful control will be necessary when commercial exploitation begins. The Quebec sampling scheme, conducted with the excellent cooperation of the Quebec Department of Fisheries, will be continued in 1956-57.

The control of toxicity in shellfish has been a problem of concern to health authorities in this country and in the U.S. for many years. In May 1955, the U.S. Public Health Service sponsored a conference in Washington with the principal objective of establishing a uniform procedure for the bio-assay of shellfish poison. Represented at this conference were various State and U.S. Federal agencies together with the Food and Drug Directorate and Laboratory of Hygiene of the Department of National Health and Welfare. One of the most important results of this conference was the adoption of a purified poison as a tentative reference standard. This laboratory is collaborating in a study of this 'reference' standard, prepared by the U.S. Army Chemical Corps, and preliminary data have been reported. The use of a Reference Standard will provide a common base line for the standardization of toxicity tests carried out in the different laboratories in Canada and the U.S. and constitutes an important step forward in the control of the toxicity problem.

*Research.* A special project on the relationship between the fecal bacterial control of oysters and sea water was carried out at Summerside, P.E.I. during August to October. Approximately 1,350 tests were made on more than 400 specimens of oysters, sea water and sewage effluent. The productivity of various bacteriological media and techniques for the isolation of coliform bacteria and enterococci was investigated and 1,286 coliform strains were isolated and classified. The results indicated that long term investigations of the bacteriological quality of shellfish-producing areas will be required for adequate assessment of safety; the mean coliform results, however, indicate that the 230 and 50 M.P.N. closure limits for oysters and water respectively are reasonably comparable and effective. The data did not justify the inclusion of the enterococcus test or the Membrane Filter test for coliform bacteria in routine shellfish surveys. The coliform MPN and MF tests gave results which were in agreement for 75 percent of the sea water samples, but the two tests do not measure precisely the same groups of organisms. The incidence of *Esch. coli* types decreased, and that of *Acrobacter* and *paracolon* type increased in sea water and oysters, with the distance from the pollution source. It was concluded that these latter types are indices of remote pollution. All data

from the investigation were included in a report to the Interdepartmental Shellfish Committee.

The relationship between the Standard Methods MPN test and the Membrane Filter test for the estimation of coliform densities received further study. Data from field studies (1952-55) were collected and analysed. Sixty-seven coliform and paracolon strains were used in experiments on the productivity of the two tests. It was found that the recovery rate of pure culture coliform organisms by the MF test was only about one-half as great as by the MPN or Standard Plate Count tests. In addition, many slow lactose-fermenting strains developed with characteristic coliform-like sheen on the MF membranes. This study has now been completed and a paper is being prepared for publication.

*Restaurant Surveys and Miscellaneous tests.* As in past years, the Laboratory has assisted the departmental Canteen Committee in assessing the bacteriological and sanitary conditions in restaurants operated in government buildings in Ottawa. Four restaurants were inspected, and utensils, used in the preparation and serving of food, were bacteriologically examined: the data, together with recommendations regarding the control of sanitation in these establishments were submitted to the Canteen Committee.

Fifty (50) water samples were tested bacteriologically during the year (23 for the Public Health Engineering Division and 27 for other agencies).

Of 125 specimens of meat submitted by the Food and Drug Directorate, six were found to contain horsemeat.

## General Bacteriology

*Staphylococcus.* Staphylococcal infections have become a major problem in hospitals and this Laboratory has become actively concerned about these infections and their control. One of the keys to the control of infections spread through a community or hospital is the specific identification of the strains being spread. Bacteriophage typing offers the best means available of identifying strains of staphylococci. This laboratory is now equipped to offer a complete typing service for pathogenic staphylococci and has become the *National Reference Centre for Canada* for this kind of work. Sets of typing phages (20) and their propagating strains are distributed to those laboratories desiring to type their own isolates, and cultures are submitted to this laboratory for reference diagnosis.

There was a great increase in the interest of these infections in hospitals in Canada during the year, as a result of which, many more cultures (1,020) were received for typing than in the previous year (290). This increase in interest on the part of hospitals and the consequent work load in this laboratory seems to be steadily getting greater. D.V.A. hospitals are particularly interested in this problem and most (702) of the 1,020 cultures received came from D.V.A. hospitals; the provincial laboratories however, are also interested and this laboratory has either sent sets of typing phages or is receiving cultures for typing from most of them. Sets of phages and cultures were sent out during the year to the Saskatchewan, Alberta, P.E.I. and British Columbia public health laboratories, as well as to the Providence Hospital, Moose Jaw, and the Hospital for Sick Children, Toronto. The new type '81' discovered by this Laboratory two years ago was sent to four laboratories in the U.S. requesting it. This has become one of the commonest types in hospitals in Canada.

Another new phage, presently referred to as phage '52AV', was isolated and characterized. This was obtained by adaptation of phage '52A' to a new propagating strain, untypable by the classical phages. Its lytic spectrum was determined and a total of 281 strains of the various groups were tested with the phage at Routine test dilution. Of

these 67 (23.8%) were lysed by it. The phage is a typical group 1 phage, lysing one-third of the group 1 strains tested and none of groups 2, 3 or 4 strains tested. Six percent (6%) of untypable strains were typed by this phage. It is related to phage '81', lysing type '81' strains but the '52AV' strains are not lysed by phage '81'. It has proved to be the commonest strain in one of the D.V.A. hospitals. It is now being used daily in the routine typing to ascertain its usefulness before referring it to the International Reference Centre at Colindale, England.

This laboratory has worked in close collaboration with the D.V.A. in a study of staphylococcal infections and a report of one of these collaborative studies, showing the usefulness of phage typing in the control of staphylococcal infections acquired in hospital, is now being prepared for publication.

During the year, with the cooperation of the hospital staff, a start was made to investigate the control of staphylococcal infections in an Ottawa hospital. This was a collaborative effort between the sections of sanitary and general bacteriology. The purpose of this study is to investigate all the sources and means of spread of staphylococci throughout the hospital environment, with a view to revising methods so as to effectively check the transmission of these organisms. There are so many facets and ramifications of the problem that it will take many years to complete but the data should be of the greatest use to all hospitals.

The first phase of the study was concerned with the sanitation of the food service kitchens and the laundry. All food service facilities were inspected and 364 utensils used in the preparation and serving of food were examined bacteriologically; 78 percent of the utensils met a standard of not more than 100 bacteria per utensil, the standard usually accepted for commercial restaurants. It is questionable whether this standard is really acceptable for hospitals, where exposure to pathogens is likely to be higher and resistance to disease probably lower than in the general community. Many deficiencies were noted and a full report, with recommendations for improvement, was submitted to the hospital authorities. A preliminary report on the laundry and laundering processes has also been prepared. The study of the bacterial contamination of the air is necessarily an important phase of the investigation and considerable time was spent by a senior officer in studying various air-sampling machines and in devising an improved 'slit-sampler'. Progress in this investigation has been seriously impeded by the recent loss through resignation of the medical officer who had been assigned to the project.

Antibiotic sensitivity tests were carried out on 203 strains of staphylococci and 26 lots of 25 ml. each of a high titred, polyvalent phage were prepared, which it is proposed to try out clinically on localized staphylococcal infections.

*Streptococcus.* This laboratory serves as a national reference centre for the serological identification of haemolytic streptococci and during the year 79 cultures were referred to it for diagnosis. In July an outbreak of severe streptococcal sore throat occurred in a Montreal hospital among the nurses, internes and lay staff, in which 18 nurses were hospitalized. Twelve representative cultures from the outbreak were submitted for typing and all proved to be Group A, Type 9. The outbreak was quickly brought under control with penicillin and the source of the outbreak was never definitely proved. An outbreak of scarlet fever occurred in Stony Plain, Alberta but no one type seemed to be involved. Of 27 cultures received, one third were type 12 and one-third type 9. The association of type 12 haemolytic streptococcus with acute glomerulonephritis complicating streptococcal infections has led to an increased interest, on the part of clinicians, in the typing of strains. Knowledge of the type may greatly influence the medical treatment of the case. Another function of the laboratory's streptococcus service is to supply grouping sera to provincial public health and hospital laboratories. During the year, 614 ml. of this sera was distributed on request.



For some years, this laboratory has been collaborating with the Hospital for Sick Children, Toronto, in a long term study of rheumatic heart disease. This laboratory has been carrying out antistreptolysin O determinations on the sera of selected patients, as its part of the collaborative effort. One hundred and one (101) ASO determinations were done during the year in this investigation and 43 additional tests were carried out for other hospitals. Thirty-four (34) determinations of C-reactive protein were also performed on specimens submitted by hospitals.

*C. diphtheriae and other Organisms.* This laboratory receives a number of cultures of *C. diphtheriae* for serologic typing and other organisms for diagnosis which the referring laboratories have been unable to identify. During the year, 49 cultures of *C. diphtheriae* and 55 other cultures were received for diagnosis. These latter are nearly always 'problem' organisms and require considerable time and effort to identify.

*Stock Cultures.* This laboratory maintains an extensive collection of several thousand stock cultures. During the year 130 cultures of Enterobacteriaceae, 82 cultures of *Staphylococcus aureus*, 121 cultures of *Staphylococcus* phage and 31 cultures of haemolytic streptococci were distributed on request.

### Biochemical Research Laboratories

During the period from April 1, 1955 to March 31, 1956, studies on the nutrition of mammalian tissues cultivated *in vitro* have been continued and extended. At the same time, the program has been broadened considerably to include investigations on the metabolism of tissue culture. The correlation between these two avenues of approach has made it possible to gain some understanding of the over-all biochemical activity of the tissue cultures. In the course of this work, 360 new synthetic media have been devised and studies made on approximately 20,000 individual tissue cultures.

The pathway of metabolism of sulphur-containing amino acids has been investigated in some detail, since this laboratory's previous studies had shown that these compounds were essential for maintaining the survival of the cultures. These investigations have established that the sulphur metabolism of individual tissues is different from that of the whole animal and that the conventional pathway established for the whole animal and for bacteria does not apply to individual tissues. A series of publications on these findings is in press in the *Journal of Biological Chemistry*.

The use of paper chromatography has made it possible to analyse the synthetic media before and after their application to the cells. These studies have shown that certain amino acids are used up from the medium and that others accumulate in the medium. Correlation experiments, in which individual amino acids in turn were omitted from the medium, have shown which ones are essential to maintain cell life. A remarkable agreement has been found between these two types of experiments: the amino acids which disappear from the medium are generally found to be essential, while those which accumulate in the medium are either inert or somewhat harmful. From these experiments, it is now possible to state the amino acid requirements of our cultures and to improve the synthetic media by the omission of certain amino acids. These investigations would appear to provide a rational basis for the development of special synthetic media for individual cell types. Application of this approach to monkey kidney cultures is now in progress. During the course of these studies, new methods for the determination of homocysteine, phenylalanine and hydroxy proline have been devised. An extensive series of publications is in press.

In order to intensify the effect of individual nutritional factors on the tissue cultures, a new method of "nutritional depletion" has been devised. This is an application of bacteriological principles and consists simply of cultivating the tissues for an initial three to four days in a salt solution, without nutrient substances. After this treatment the cul-



tures show a very restricted growth area, but revive, grow and survive to a normal period when supplied with the synthetic medium. As a result of the depletion period however, the requirement for individual growth factors is greatly increased. In the case of co-enzyme A, the optimum effective level is increased one-thousandfold. This new technique is now being applied to investigations on the vitamin and co-enzyme requirement of the cultures.

The various investigations already mentioned have been carried out to a large extent with freshly-explanted tissues from the chick embryo. Application of these studies has been made to other types of tissue, such as the L strain of mouse tissue, the HeLa cell of human malignant origin, and the monkey kidney cells as used in poliomyelitis studies. Ascitic tumor cells have been investigated as a source of cultures of malignant cells. From these studies an investigation of the mouse tumor specificity of ascitic tumors and the effect of cold in altering specificity is in progress.

During the fiscal year, approximately 300 liters of medium 199 have been prepared and supplied to the Virus Section for safety testing of the poliomyelitis vaccine. This volume of medium would have cost over \$10,000, if purchased from commercial sources. In addition, medium M 150 and M 416 have been supplied each week to the Virus Section for the maintenance of special cell strains.

A collaborative project with the Clinical Chemistry Section on the nutritional requirements of *Treponema pallidum* has been continued. Approximately 50 new media have been prepared and used in this study. Some progress has been made in this project but further experiments are needed before definite statements can be made.

A collaborative project with the Biologics Control Section is devoted to the study of tissue culture techniques as applied to the measurement of *H. pertussis* antibodies. This project is in its initial stages.

A study of toxins and other products of *Staphylococcus aureus* which may influence the infection process with the species has been commenced. The preliminary studies have involved selection of strains which produce alpha- and delta-lysins in usable yield, development of suitable growth media, and investigation of the kinetics of hemolysis by alpha- and delta-lysins as a means of developing methods for analysis of these products. In addition, good evidence has been obtained that delta-lysin which is capable of hemolyzing human erythrocytes also possesses leukocidal activity and may be identical with the so-called leukocidin of this species of bacteria.

## Publications

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3. Pasioka, A. E., and Morgan, J. F., The Detection of Homocysteine in Biological Systems. *Biochim et Biophys. Acta*, 18: 236-240, October 1955.
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6. Morgan, J. F., Morton, H. J., Campbell, M.E., and Guerin, L. F., The Nutrition of Animal Tissues Cultivated in Vitro. II. A comparison of various Synthetic Media. Accepted for publication in *Journal of the National Cancer Institute*.
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8. Pasieka, A. E., and Morgan, J. F., The Quantitative Determination of Phenylalanine on Paper Chromatograms. Submitted to *Analytical Chemistry*.
9. Pasieka, A. E., and Morgan, J. F., The Specific Determination of Hydroxy-L-Proline in Biological Materials. Submitted to *Proceedings of the Society for Experimental Biology and Medicine*.

### Biologics Control Laboratories

The program followed by the Biologics Control Laboratories stems from the Laboratory of Hygiene's dual function of providing technical assistance and advice to the Director of the Food and Drug Directorate, and its role as a national public health laboratory. The greater emphasis of work is based on the first-mentioned responsibility and includes the routine control testing of select groups of drugs, research related to the development and improvement of a wide variety of tests required for the proper control of these drugs, and field studies to prove the value of the laboratory control tests. The field studies are also an aid in proving the value of certain of these drugs, i.e., vaccines, toxoids, etc., for humans, and determining the most advantageous method for their use.

Shortage of staff and inability to obtain replacements to fill vacancies of the existing establishment plagued the program and acted as a handicap throughout the year. Priority was given to the control work and every effort was made to maintain and even to increase the volume of control tests. But a number of research projects had to be curtailed and a number of others shelved.

### Routine Controls

The control of licensed parenteral drugs is dependent on two separate procedures—the inspection of manufacturing establishments to ensure they meet Canadian standards from the standpoint of plant cleanliness, manufacturing techniques, and qualifications of personnel; and second, the examination and testing of drug specimens picked up on the “market”.

The policy for plant inspection, to date, has been the annual inspection of licensed Canadian establishments and bi-annual inspection of foreign licencees. Experience has shown this procedure to be a very effective control weapon. As a result, the policy was extended and every effort will be made to carry out annual inspections of all licencees—domestic and foreign. Thirty establishments were inspected during the fiscal year, twenty-nine were found satisfactory and their licences were renewed; the licence of one manufacturer had to be cancelled.

Tests for bacterial sterility, safety identity and potency are carried out routinely on the drugs listed in Schedule D, part C, of the Canadian Food and Drugs Act. This includes all parenteral antibiotics and biological drugs such as vaccines, toxoids, antisera, etc. Tests for identity and potency are carried out on non-parenteral antibiotics. The magnitude of the task for controlling antibiotics will be appreciated when it is realized that there are 19 distinct antibiotics distributed in Canada at the present time, and the

majority are put up in combinations with other antibiotics and with other drugs. One company alone lists 55 separate antibiotic combinations in their catalogue.

Tests for bacterial sterility and, where it can be done, for pyrogens, are carried out on Schedule "C" parenteral drugs and on a multiplicity of non-licensed parenterals. To obtain wider coverage and more complete control of imported drugs, samples of all "parenterals" are taken at the port of entry and sent to the Laboratory of Hygiene for testing.

During the course of the fiscal year, 38 new drug submissions, related to antibiotics, were reviewed for the Director of the Food and Drug Directorate. Seven hundred and twenty-five lots of antibiotics were received and tested during this same period. This material represented all 19 antibiotics mentioned above, and consisted of more than 200 different preparations and formulations. A summary of tests performed on these samples is as follows:

Potency (various types of assay)	721
Sterility	38
Toxicities	21
Pyrogens	21
<b>Total</b>	<b>801</b>

A total of 758 drug samples, other than antibiotics, were tested. A summary of these tests follows:

<i>Product</i>	<i>No. Tested</i>	<i>Tests</i>
Serum products (includes human albumin, sera & gamma globulin)	58	Sterility, pyrogens
Antitoxins	19	Potency, sterility, pyrogens
Toxins	13	Potency, sterility, identity
Toxoids	72	Potency, safety, identity
Vaccines *	87	Potency, sterility, safety, identity
Intravenous solutions	48	Sterility, pyrogens
Parenteral drugs (not included above)	140	Sterility, safety, pyrogens
Medical supplies (sterile bandages, sutures, etc.)	80	Sterility
Blood Transfusion Equipment (a service to Red Cross Blood Donor Service)	229	Pyrogens, sterility
Disinfectants	12	Phenol coefficients

In the course of this work, fluid tetanus toxoid from two manufacturers and fluid diphtheria toxoid prepared by one manufacturer were found to have low potency. All three manufacturers were placed on a release basis for these products.

\* Includes 27 lots of polio vaccine tested for bacterial sterility, pyrogens, freedom from tuberculosis organisms or tuberculins, and total nitrogen.

## Research

Preliminary studies were initiated towards the development of better control methods for B.C.G. (anti-tuberculosis) vaccine and tuberculins. Tentative procedures have already been introduced.

Studies on the assay of pertussis vaccine using both the intracerebral and intranasal challenge routes were discontinued, and new approaches, using tissue culture techniques, are being explored. Attempts to determine the cause of wide variation in the response of the mouse to immunization with whooping cough (pertussis) vaccine led to the use of radio-active isotopes. An article on the methods developed has been sent to a scientific journal for publication and another, on the results obtained, is now under preparation.

Immunization studies in humans were continued, but at a reduced rate. One study in Montreal, using diphtheria, tetanus toxoid and pertussis vaccine, was completed and the results published in the *American Medical Association Journal*. A study on the value of prenatal immunization—immunizing the mothers against whooping cough during the last trimester of pregnancy—is in its third year and shows promise of yielding interesting results. The latter study is in co-operation with the public health authorities, City of Montreal Health Department and McGill University. A second study on prenatal immunization was started on Indians in Saskatchewan, in collaboration with medical officials of the department's Indian Health Services. An attempt to reduce infant mortality in the Indians of that province is being made. In this study, the mothers are being immunized against six diseases—diphtheria, tetanus, whooping cough, typhoid and paratyphoid A and B—in the last three months of pregnancy. It is too soon to tell how valuable this procedure will be.

An immunological status survey of Indians by measuring blood samples for antibodies to a number of diseases is soon to be completed. A similar study for Eskimos is still under way.

## Collaboration—W.H.O. and Other Countries

The Biologics Control Laboratories collaborate with W.H.O. in the testing of proposed International Standards for Erythromycin, Tetracycline, pyrogen extract, and diphtheria toxoid (adsorbed). Extensive tests were carried out on all of these and the results sent to the W.H.O. authorities.

This laboratory also collaborated with the British Medical Research Council in their attempt to establish a Viomycin Standard for the United Kingdom. Finally, a number of samples of tetanus toxoid were assayed for Iran in conjunction with their biologics control program.

## Other Duties

Two hundred and eighty-five lots of low potency antibiotic standard and 35 lots of high potency standard were provided to D.V.A. hospital laboratories, provincial public health laboratories, universities and research institutes to aid in controlling their antibiotic test procedures.

The library of anaerobic cultures, established last year, is being added to continually. Six cultures were sent out on request and identification of 19 cultures from hospital laboratories was carried out.

## CLINICAL LABORATORIES

### Clinical Chemistry

The first edition of a Manual of Clinical Chemistry for Hospital Laboratories has been completed. The material included in the manual has been selected only after inten-



sive studies in a pilot laboratory located in an Ottawa hospital. The manual has been written primarily for the medical technician in those hospital laboratories where expert advice is not readily available. The authors have tried to combine simplicity with a practical degree of accuracy and no detail has been considered too insignificant to include. It is hoped, of course, that it will be useful for the chemist and pathologist as well and that it will be of value for teaching purposes. The manual has been printed in loose-leaf form and will be revised and enlarged from time to time. It may be obtained, without charge, upon request.

Studies in methodology are being continued and it is hoped to add a number of procedures to the manual in the next year or two. Particular attention has been given to the determination of cholesterol, phosphatase, bilirubin, amylase, total protein, albumin, hemoglobin, total iron and carbon dioxide capacity.

The study of micro and ultra-micro techniques has been continued and comparisons with macro ones have been carried out for several of the more common determinations. The method for the micro determination of nonprotein nitrogen has been improved. It is now possible, with a total of .75 ml. of blood, to perform the following determinations: sodium, potassium, calcium, pH, protein, glucose, nonprotein nitrogen, urea, carbon dioxide content, chloride, hematocrit and oxygen content. These procedures are extremely useful in pediatrics and in other instances where it is difficult to obtain larger samples of blood. Intensive training in ultra-micro techniques has been given to a biochemist from one large hospital and a technician from another.

The periodic analysis of stored frozen serum specimens was continued in order to evaluate their usefulness as controls. Several similar commercial preparations were analyzed for various components.

Cyanmethemoglobin standards were received from the National Research Council, Ottawa, and their optical densities were measured at regular intervals in order to test their stability; this work is part of a scheme, instituted by the National Research Council, Washington, D.C., for the establishment and evaluation of a suitable stable hemoglobin standard.

Assistance was given in the preparation of the written examinations for the Biochemistry Specialists Certificate of the Canadian Society of Laboratory Technologists. Eight theses and examination papers submitted for this certificate were marked.

The laboratory suffered the loss of two chemists and due to the resulting serious shortage of staff a Refresher Course was cancelled and certain activities, such as evaluation studies of accuracy in hospital laboratories and the preparation and distribution of standards, had to be curtailed.

## Syphilis Serology

This division serves as a national reference laboratory for syphilis serology. Collaboration with the Directors of Provincial Public Health Laboratories has been continued in an effort to maintain a satisfactory and uniform performance of blood tests for syphilis. All standard antigens, amboceptor and complement used in provincial laboratories are prepared at the Laboratory of Hygiene. During the past year these reagents were distributed in the following quantities: Kahn sensitized antigen, 11,160 ml.; Kahn standard antigen, 8,970 ml.; VDRL flocculation antigen, 10,970 ml.; VDRL buffered saline, 24,300 ml.; Kolmer antigen, 2,180 ml.; amboceptor, 355 ml.; and dehydrated complement, 32,160 ml.

The results of the seventh serological survey, which were compiled during the year, indicate that uniformity of testing in the provincial laboratories is good.

For the past year the Laboratory has been participating in the National Serologic Evaluation Study of the United States. The referees in this annual survey are the author serologists of the various tests and it is thus an excellent opportunity to check the sensitivity of each of the procedures used in Canada.

A new treponemal antigen test, the *Treponema Pallidum* Complement Fixation (TPCF) test, has recently been developed and the senior officer visited the laboratory of origin to study the procedure. The antigen is an extract of the virulent causative agent of syphilis and it is used in a conventional complement fixation test. Specimens will be examined in this laboratory with both the TPI and TPCF tests and the results will be evaluated in the light of clinical information.

During the year, an intensive investigation of the survival of virulent *T. pallidum* in various synthetic media was conducted in collaboration with the Biochemical Research division. In addition, certain practical problems related to the TPI test have been studied and it is hoped that some of the observations will be of use to any who are contemplating setting up a TPI unit. Positive control sera submitted by the World Health Organization have been examined at various time intervals. This year the TPI test was performed on 755 specimens received from various parts of Canada by arrangement with Provincial Laboratory Directors.

Studies on the development of a fully synthetic antigen for use in the blood tests for syphilis have been continued as a joint enterprise with Dr. Erich Baer of the Banting Institute. The components of cardiolipin antigen, which is now commonly used in diagnostic work, are the naturally-occurring cardiolipin, lecithin and cholesterol. Synthetic saturated and unsaturated lecithins, as well as a number of related compounds, have been used as substitutes for lecithin. No compound lacking the complete lecithin structure has been found to be satisfactory. Two synthetic compounds related in structure to cardiolipin have each shown some slight reactivity in antigen mixtures as cardiolipin substitutes. The results of these studies have been incorporated in a paper to be presented at the International Symposium on Venereal Diseases and the *Treponematoses* which is being held in Washington, D.C. (May 1956).

The senior officer of the division has continued to serve on two international committees: (a) Sub-Committee for the Development of Standard Serologic Methods of the American Public Health Association, (b) Expert Advisory Panel on Serology and Laboratory Aspects of the World Health Organization. As part of the activities in the latter group the Laboratory has been chosen to assist in the assay of international reference sera for syphilis.

### **Virus Laboratories**

During the first part of the fiscal year the Virus Laboratories were fully engaged in the poliomyelitis vaccine control, carried out in accordance with Canadian Food and Drug regulations. These control procedures included safety tests in more than 500 monkeys and in numerous tissue cultures. Twenty-five lots of commercially produced vaccine were submitted to this Department, nineteen of which passed the safety tests.

During the latter part of the year further lots of vaccine, produced under the new and stricter regulations were submitted to this Laboratory for safety and potency testing. With the new regulations larger samples of vaccine were tested in about double the number of animals and large numbers of tissue cultures were inoculated with samples of each lot of vaccine. The increased work load on the vaccine required employment and training of additional personnel.

The poliomyelitis diagnostic service was expanded during the year and over 200 specimens from human cases of poliomyelitis forwarded by provincial departments of

health were examined by tissue culture methods. Thirty-six strains of poliomyelitis virus were isolated and typed. Thirty of these isolations were obtained from 116 specimens submitted by Nova Scotia and the majority (83 per cent) were of type III, an unusually high rate. The average rate for type III for the period of 1947-54 was only about five per cent of all types of polio virus isolated in Canada. In course of attempts to isolate polio virus there were encountered 32 strains of unidentified cytopathogenic agents, the etiological significance of which is not known. The majority of these agents appeared in specimens which came from Nova Scotia and Prince Edward Island. Experiments with these strains indicate that differences in cytopathogenicity exist among them. About six strains of Coxsackie virus were isolated from the specimens submitted by the provincial laboratories.

The largest number of poliomyelitis virus strains (30 per cent) was isolated from children of the 1-4 years of age group. The 1-4 and 5-9 age groups together accounted for 50 per cent of the strains isolated. Thirteen of the children up to nine years were recorded as having been vaccinated against poliomyelitis several months previously. From none of these, however, was polio virus isolated, although Coxsackie strains were recovered from two children and unidentified cytopathogenic agents from three children.

During the fiscal year of 1955-56 a total of 791 sera were received from the provincial Departments of Health, the Departments of National Defence, Veterans Affairs, the Indian Health and the Immigration Medical Services; 2,825 serological tests were carried out with these specimens. A serological survey on about 500 Eskimos and Indians of the Northwest Territories was initiated during this year with the object of establishing the degree of immunity of these populations to Virus Influenza and Poliomyelitis.

During the year 712 samples of standardized viral antigens and antisera were distributed by the Virus Laboratories to the provincial Laboratories of Health for the routine diagnosis of viral infections in man.

Research is being conducted on the development of a new potency test for poliomyelitis vaccine employing guinea pigs as test animals. Samples of recent commercially-produced vaccines were inoculated into large numbers of guinea pigs and monkeys, and the seriological response of these animals is being compared in tissue culture neutralization tests. It is hoped that the test in guinea pigs will replace the more expensive and cumbersome test in monkeys being used at present in the governmental control of polio vaccines.

Attempts have been made to maintain cells of human origin in synthetic culture media with the object of establishing a tissue culture test for poliomyelitis vaccine which is more sensitive than the test in monkey kidney tissue culture now used in official control procedures on this vaccine. An adaption of human kidney cells to a synthetic medium has been successful and it is hoped that in the near future these cells can be tested for comparative susceptibility to various viral agents.

An investigation was conducted to develop methods for the concentration and purification of soluble diagnostic antigens to be used in the serodiagnosis of virus infections in man. A tenfold purification of the antigens and a corresponding increase in specificity has been achieved and the results were reported at the annual meeting of the Canadian Society of Microbiologists at Winnipeg in June.

A quantitative study was made of the factors influencing the preparation of viral vaccines when using formaldehyde. Optimal conditions in this process were defined and improved trial vaccines have successfully been prepared under these conditions. This work is being continued.

Another object of research was to seek new methods for the preparation of viral vaccines replacing formaldehyde by various inactivating reagents. One compound has

been found particularly suitable for this purpose and is being studied in detail. Trial vaccines tested to date suggest that destruction of viability of the vaccine without loss of antigenicity may be achieved by use of this reagent.

### Zoonoses Laboratories

The Zoonoses Laboratories continued throughout the year to provide a modicum of service to provincial and other laboratories despite a shortage of trained personnel and a lack of space in which to carry out the work. Proposed disease-locating surveys of Eastern Canada and certain other research projects which had been planned were held in abeyance in order that routine services already undertaken might be maintained.

The examination of ticks and other specimens for the two western provinces was carried on as in previous years, but on a reduced scale. Some 4,750 ticks, fleas and other ectoparasites, and 225 rodent tissue pools, (spleens, lymph nodes, etc.) were examined for evidence of Rocky Mountain spotted fever, Q fever, Colorado tick fever, Tularemia and bubonic plague.

As evidence of both Rocky Mountain spotted fever and Colorado tick fever, infection was found in wood ticks (*Dermacentor andersoni*) collected in the region of Banff National Park, in 1953 and 1954, and some concern regarding this was expressed by the departments concerned. Tick collecting was pursued again this year in that area and attempts made to confirm the previous findings. To insure, as much as possible, that infected specimens would not escape detection, guinea pig inoculation tests, repeated yolk sack passages and, on as many specimens as possible, complement fixation tests, were employed in the rickettsial studies and repeated mouse brain passages were used in the checks for Colorado tick fever virus.

Definitive isolations of spotted fever rickettsiae were not obtained, but evidence highly suggestive of low grade mildly infective or immunizing strains was found in 16 lots of ticks submitted from Alberta and in two lots received from British Columbia.

It is perplexing, but in none of the surveys carried out thus far in Western Canada, surveys in which many thousands of ticks have been examined, have investigators ever encountered strains of rickettsiae highly virulent for guinea pigs, such as are frequently seen in the United States, even though severe and sometimes fatal human infections are encountered in the areas from which the ticks were submitted.

No foci of Q fever, Tularemia or bubonic plague infection were uncovered this year.

Some 4,600 millilitres of standardized concentrated diagnostic antigens—*Brucella abortus*, *Br. melitensis*, *Br. suis*, *Pasteurella tularensis*, *Proteus vulgaris*, OX2, OX19 and OXK—sufficient to conduct approximately 128,000 diagnostic tests, were supplied to provincial and other laboratories.

During the year an intensive study was carried out, and a paper prepared for publication, on a time-saving method of preparing *Brucella abortus* ring test antigen by using neotetrazoleum chloride instead of hematoxylin for staining, and studies on methods of maintaining stock cultures of *Liposira* and preparing antigens for serological tests were continued in so far as time and facilities permitted.

### Administration Section

The administration section is composed of several sub-sections which provide all auxiliary services necessary to the operation of the scientific units. These include, Media and Wash-up Rooms, Animal Breeding Colony, Test Animal Colonies, Stores, Workshop, Transport, Stenographic Pool and Building Maintenance.



Although the severe heat of the summer affected the total yield to a large extent, the animal breeding colony continued to operate at about the same production level as last year. Some experimental breeding has been done to determine the best means of maintaining a high level of production as well as to ascertain the proper amounts and types of food required. A system has been devised for feeding ascorbic acid in drinking water, to ensure that all animals obtained their proper requirements. The test animal room was used as an experimental unit as well as a stocking unit for rabbits and guinea pigs from the breeding colony.

The work load on the stores and workshop greatly increased, due to the expansion in operations both in the Virus building and other sections, and there was increased demand on all other administrative services. Media and preparation rooms provided all the necessary media for the laboratories as well as glass wash-up for a large proportion of the glassware used. Transportation continued to be important, due to the large number of animals and biological specimens requiring immediate distribution.

## INDIAN AND NORTHERN HEALTH SERVICES

### Development and Functions

Five milestones in the development of Indian Health Services were reached in 1955. Exactly two hundred years ago the Imperial Government appointed Sir William Johnstone, of the Mohawk Valley, New York, as the first Superintendent General of Indian Affairs. From this event may be traced the development of all branches of government now engaged in any phase of Indian administration both in Canada and the United States. Seventy-five years ago the Canadian Department of Indian Affairs was formed, and under its aegis were appointed the first part-time physicians to the Indians of Eastern Canada. Fifty years ago a Superintendency of Medical Services was set up within the Department of Indian Affairs. This early venture did not prove too successful but the golden jubilee of the first attempt to organize a medical program underlines the long-standing interest of Government in the health, as distinct from the general welfare, of the native population.

A most important date in the development of the Directorate was November 1, 1945. On that day the control and supervision of the administration of medical services for Indians and Eskimos was transferred to the Department of National Health and Welfare as Indian Health Services. The Directorate, as now set up, is just ten years old and, from the point of view of rapidity of expansion and widening of interests, these have been most fruitful years. The progress was climaxed in 1955 by the addition of a new wing to the Service. Northern Health Services came into being, and fused with its older partner to form the combined Directorate of Indian and Northern Health Services.

### INDIAN HEALTH SERVICES

To put the relationship between this Service and the Indian population of the country into its proper perspective it must first be emphasized that the Indian is not entitled by law to free medical care. It is the intention of the Government to help these people reach full social, economic and educational equality with their white neighbours and to assist them, if they choose, to become full partners in the Canadian community. However, they have not been made wards of the State, nor has the State even assumed the responsibility of providing free medical attention to all, irrespective of their legal status or ability to pay. On the other hand, the government votes a certain amount of money to be spent each year for the provision of basic health and treatment services to the Indians and Eskimos. This is done on humanitarian grounds, for the isolation of many of these people is such that even the most primitive facilities would not otherwise be available.

The Directorate functions primarily as a public health service and this basic service is provided to all Indian and Eskimo communities. By contract, the eligibility for medical care of any given individual is determined by three considerations. First, he must be an Indian within the meaning of the Indian Act. Next, he must be following the Indian way of life, which for practical purposes in most parts of the country means that he must be living on an Indian reserve or have been away from that reserve for a period of less than a year. Finally, it must be established that the individual is financially unable to arrange appropriate care for himself. If he is able, he is expected to do so.

At the latest census in 1954 the Indian population was shown to be 151,500 as compared with 136,500 in 1949. This represents an increase of 11 percent over the five year period—a rate appreciably in excess of the natural increase in the non-Indian

population. The death rate is somewhat higher than average; in 1954 the crude rate for all Canada was 8.2 per 1000 while that of the Indian was 9.8. The birthrate is much higher; again quoting the 1954 figures, which are the most recent available, the rate in Indians was 40.8 as compared with 28.4 in the non-Indian population. Projecting these rates into 1955 and making due allowance for approximately 1,000 Indians who are accepted each year for legal enfranchisement, the 1955 population is estimated at 154,000. The same influences are apparent in the Eskimo group whose population in 1955 was about 9,500.

Administration of all aspects of Indian Affairs other than health is the responsibility of the Department of Citizenship and Immigration while the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources has the same role in relation to the Eskimo.

## NORTHERN HEALTH SERVICES

Northern Health Services has a dual function. Basically it has the duty of carrying out all responsibilities of the federal government in the field of health in the Northwest Territories and the Yukon, except where it might be advisable for the armed forces to operate health facilities within military establishments. In addition, it is prepared to undertake certain of the responsibilities of the territorial governments, provided suitable agreements in respect of each Territory are made with the appropriate authorities.

It was recognized from the beginning that the first task lay in collecting facts in order to assess the needs of the various communities scattered across the huge mass of Northern Canada. This was begun by a series of surveys through the area, by increased liaison with the governments concerned and with the Department of Northern Affairs and National Resources. It was fully realized that the medical and public health standards of the Territories could best be raised by coming to know and understand the points of view of their citizens and by bringing to bear, on their behalf, the technical resources not only of Indian and Northern Health Services but of the Department as a whole.

During 1955 Northern Health Service personnel were in the thick of this slow process. In all spheres in which the activities of the two Services overlapped they acted as a single unit whose functioning was co-ordinated at all levels by a common Directorate. Hence, the remainder of this Report except where the context makes the distinction clear will make no attempt to describe their activities separately. To do so might imply a divergence of policy or of authority which did not in fact exist.

## FACILITIES AND STAFF

For administrative purposes the country has been divided into five Regions with headquarters at Vancouver, Edmonton, Regina, Winnipeg and Ottawa. Each is headed by a Medical Regional Superintendent who represents the Director and who is assisted in his planning by a nursing consultant and a senior administrative officer. In the three Regions whose territory extends North of provincial boundaries this team acts in a dual capacity, representing the interests of both Indian and Northern Health Services. All Regions are further subdivided into Zones, each of which is administered by a Medical Zone Superintendent. This officer frequently has his headquarters in one of the larger departmental hospitals and may be assisted by a team similar to that operating from the Regional office. Within each of these Zones is a variable number of field installations. When circumstances do not justify the establishment of a separate unit the native groups are cared for under arrangements made with local agencies. In the more isolated districts, where constant professional surveillance may be impossible to arrange, the network is rounded out by the help volunteered by scores of missionaries, teachers, traders and officers of all government departments who dispense simple drugs, provide such

first-aid assistance as lies within their abilities and act as sentries who contact the nearest administrative centre at the first sign of emergency.

### Services to Suit

Facilities of the Service are scattered across all Provinces and Territories and are tailored, as far as possible, to the needs of the groups they serve. Their functions and size vary widely. However, in the conviction that only through a progressive public health approach can the most urgent problems be met, the field program has been built around the Public Health Nurse. The typical unit from which she works consists of a dwelling and an office and is known as a Health Centre. From this centre she extends her influence into the lives of the people, teaching the fundamentals of good health habits and ensuring that modern protective procedures are employed. Most of these Health Centres are located in rural communities and some are extremely isolated. In addition, fourteen clinics are based on departmental hospitals. From there a team of one or two medical officers, assisted by one or more graduate nurses, provides a combined health and treatment program. Thirteen similar clinics are set up in centres of relatively high population density in various parts of the country. In all, 86 field units of one or other of the above types were in operation during 1955.

When provision is made for the care of less seriously ill patients by the addition of a few beds the field unit becomes known as a Nursing Station. It is usually staffed by a nurse, a nursing assistant and a fireman-labourer. These Nursing Stations are mainly located in remote districts and medical advice, when needed, may have to be obtained by radio. In emergency a physician is flown in or the patient evacuated by air. The amount of bed care required is so consistently high that preventive public health work has had to be somewhat curtailed, but progress has been made towards establishing a proper balance. One hundred and eighty-five beds in 40 such Nursing Stations were operated in 1955, and a breakdown of the work done is given in Table 12 at end of the Directorate's report.

Table 11 summarizes the distribution of all field facilities by type and by province, and in Table 13 is shown some of the professional staff needed to operate the program in all its aspects. It will be noted that the work of the physicians and nurses was supplemented by a team of ten Dental Surgeons who attempted to concentrate on prophylactic care and dental health education in the younger age groups.

### Hospital Care

The eighteen hospitals operated by the Directorate are almost exclusively in the West. The most easterly is that at Moose Factory, Ont., at the foot of James Bay, and the most westerly at Miller Bay near Prince Rupert, B.C. They vary in size from 20 to 500 beds and have a total rated capacity of 2,193 beds and 110 bassinets. The larger of these function primarily as sanatoria for the treatment of tuberculosis but even these, and to a greater extent the smaller hospitals, are equipped to serve as community general hospitals. Table 14 provides statistics of patient movement in each of these institutions during 1955. The figures refer to in-patients, by which is meant those who were receiving medical care and who were occupying patient beds. Out-patients, newborn children and persons awaiting transportation are, therefore, excluded. The table includes both general and tuberculosis patients, and combines both Indians and Eskimos. The average occupancy of the 2,193 beds was 87.7 percent and the professional establishment included 40 medical officers and 286 graduate nurses.

The total number of full-time staff employed by the Directorate was 1,722. Amongst these were 197 Indians and Eskimos. To supplement their efforts, and to ensure that even the most remote bands should have access to professional help, it was found neces-



sary to employ more than 60 part-time physicians and to receive accounts from more than 1,200 doctors and 120 dentists in all parts of the country. In addition, Indians and Eskimos were treated in over 600 non-Departmental hospitals, which accounted for more than one-half of the 1,747,884 patient days of care given under the auspices of the Directorate during the year.

Data on patients treated in hospital, whether departmental or non-departmental, are given in Table 15. This table is both a synopsis and a breakdown: it summarizes and combines information on each of the three principal elements—race, condition and type of hospital—which enter into the patient-movement statistics maintained by the Directorate. As indicated by this table, there were no mental patients in departmental institutions. Moreover, the British Columbia Health Insurance Services (B.C.H.I.S.) concern only General patients and only Indians, as there are no Eskimos in that province. In all categories the patient days of separations include not only those days accumulated by patients actually discharged but also those accumulated by patients who have died or been transferred; many of the individuals who contributed to the last group were still in hospital at the end of the year. Therefore, the average length of stay of persons discharged, particularly in the tuberculosis category, was somewhat greater than might be inferred from the table

It will be noted that there was a substantial increase in patient load. This was most marked in the General category, where 1,687 individuals were under treatment on January 1, 1956, as compared with 1,050 on the same date in 1955.

## FIELD ACTIVITIES

Reduced to its simplest terms the question which the Service is trying to answer is how to overcome the difficulties inherent in arranging a modern health service for 2,000 small groups, often isolated and sometimes primitive, scattered over half a continent. Under these circumstances a project undertaken after weeks of careful planning may have to be postponed because of a change in the wind or a premature thaw. An X-ray survey may be held up by a broken crankshaft. A relatively simple problem may prove difficult to solve if raised over the radio by a worried trader in an Arctic settlement. In many outposts field officers must possess, above all, the qualities of ingenuity and resourcefulness and may sometimes be called upon to face a degree of personal risk. By contrast, officers in the more settled parts of the country may be able to operate their units in much the same fashion as do their provincial counterparts.

The problem is further complicated by the comparatively high incidence of illness found amongst the native peoples. Most striking at first glance is the prevalence of those communicable diseases which always follow in the train of poor sanitation and inadequate housing. Of particular importance in this respect is gastroenteritis of infants, which still takes far too high a toll of Indian lives each year. Such conditions as tularaemia and hydatid disease, relatively uncommon in the non-Indian population, are well recognized amongst Indians. The Eskimos, in particular, appear to have a very low degree of resistance to the more common communicable diseases and their exposure for the first time to measles or pertussis may be followed by a severe epidemic, sometimes involving the entire settlement and attended by a high incidence of complications. Underlying these striking manifestations in some groups are such less obvious problems as inadequate nutrition. Most basic of all, many have to face the psychological difficulties which must be met by any population which is trying to span, in one lifetime, the cultural gap of centuries.

## EDUCATION AND IMMUNIZATION

With this background it was necessary to maintain an active program on many fronts during 1955. In all areas increasing emphasis was laid on health education. Many

visual aids were employed, including filmstrips prepared by the Department, supplemented by material borrowed from the National Film Board library. For the first time an intensive effort was made to bring this type of teaching to the Eskimo. However, it was realized that these aids alone would not achieve lasting results except inasmuch as they were used to supplement the type of continuing education provided by the public health nursing program. It was felt that the progress that could be expected in any community would be in direct proportion to the degree of confidence the people had in their nurse. Home visiting was stressed, and in many areas first aid and home nursing classes were held.

Two poster competitions were held in an attempt to stimulate the interest of the school children. The first dealt with tuberculosis control and was confined to the province of British Columbia; the other covered the remainder of the country and stressed the importance of good nutrition. In both cases prizes were given to the successful entrants.

An intensive immunization program was continued in all areas, using the triple diphtheria, pertussis and tetanus antigen. B.C.G. immunization was again encouraged and an attempt made to give this protection to every newborn Indian child. In those districts where the risk was thought to be high T.A.B. courses were given. A complicating factor in such campaigns is that many native groups can only be assembled at irregular intervals and it is sometimes impossible to complete the course that has been initiated. The protection of the Salk vaccine was made available to the Indians and Eskimos for the first time during 1955. Those Indians resident within provincial boundaries were included in the campaigns organized by the local authorities. The distribution of vaccine in the Northwest Territories was organized by the Directorate and a total of 2,700 doses was administered by officers of the Service to the Indians of this area and to the Eskimos in all three sectors of the Arctic.

Worthy of special mention amongst the many field activities during 1955 was the success achieved by the survey parties in the Eastern Arctic. Five separate teams were involved, each responsible for a certain sector of the coast. The "saturation" approach was attempted for the first time with striking results. This involved a closely coordinated, highly organized program for each settlement whereby the greatest amount of benefit could be obtained by the population in the short time available. Each member of the survey team had certain clearly specified duties. The success of the venture can be gauged by the fact that almost 80 percent of the total population from Northwest River, Labrador, to Craig Harbour, Ellesmere Island, was X-rayed, physically examined, immunized against diphtheria, pertussis, tetanus and poliomyelitis, and given a dental check-up.

The immunological studies commenced in 1954 in co-operation with the Laboratory of Hygiene were continued during 1955. Additional valuable information on Eskimos was gained from specimens obtained by the Arctic survey parties. The investigation on the incidence of carcinoma of the cervix amongst Indian women, also commenced during 1954, is still proceeding and by the end of 1955 almost 1,000 specimens had been examined.

## TUBERCULOSIS

### Deaths

For the past several years the outstanding highlight of this section of the Report has been the precipitous drop in Indian tuberculosis mortality. Official figures for 1955 are not yet available but early information indicates that the death rate will not be much lower than that recorded for 1954. This finding is not altogether unexpected; many of the deaths were in the older age groups and represented the postponed ending of lives prolonged by intensive treatment. A summary of the mortality rates over the past ten years is given in Table 16. It may also be of interest to note that in 1954, the last year

for which final figures have been received, tuberculosis had dropped to eighth place as a cause of Indian mortality. This contrasts with the position it held in the four previous years—first in 1950, second in 1951, third in 1952 and sixth in 1953.

### **Case-finding**

The most gratifying aspect of the anti-tuberculosis activities of the Directorate during 1955 was the increased coverage which was provided in the case-finding program. On field surveys alone a total of 86,652 X-rays were taken which represents an increase of 8,512 over the previous year. In addition, 11,635 plates of Indian and Eskimo school children were examined. These figures do not include the many thousands taken in hospitals, those referred by outside agencies or the examinations carried out on persons of non-native status. Much of this extra activity was undertaken in the far North. It is estimated that field and school surveys reached 70 percent of the total Eskimo population, and that this percentage was exceeded in the Eastern Arctic. New active cases in the Eskimo group numbered just over 400 giving the extremely high overall incidence of 6 percent. Practically every known active case has been evacuated and is now under treatment; hence a marked improvement in this figure should be noted within the next two or three years.

Allowing for duplication of plates, the 91,099 examinations of Indians on survey represents a coverage of about 50 percent of the total population. There was some variation in the incidence of new cases in different areas, but over all the figure averaged approximately one percent. On survey examinations alone, counting all groups, one active case of tuberculosis, either new or reactivated, is being turned up for every 54 patients examined. Data on selected aspects of the case-finding program is presented in Table 17.

### **B.C.G. Vaccination**

This phase of the work gathered further momentum in 1955. Six thousand, one hundred and twelve Indians were vaccinated for the first time and 693 repeat procedures were done. This represents an increase of over 1,000 as compared with the 1954 figures. From the point of view of long-term planning an important step was taken by having Doctor Armand Frappier, accompanied by Doctor Lise Davignon of the Institute of Hygiene and Microbiology of the University of Montreal, visit each of the Regions. Intensive courses in theory and technique were conducted at four centres for groups of field doctors and nurses.

### **Hospital Activities**

As may be seen in Table 15 over 1,000,000 days of patient care were given to tuberculous Indians and Eskimos during 1955. The average length of stay for those actually discharged has not yet been calculated, but it is estimated that the final figure will be well over 400 days.

There has been no fall-off in the patient load. On January 1, 1956, 2,982 tuberculous patients were under treatment as compared with 2,941 on January 1, 1955. However, it is encouraging that there is now little or no delay in getting an active case under treatment.

## **EXTENSION OF SERVICES AND FACILITIES**

### **Staff**

The Director of Indian and Northern Health Services was designated as Canadian member of the Executive Board of the World Health Organization and headed the Canadian delegation to the World Health Assembly in Mexico in 1955.

A senior medical administrative officer was appointed to the Directorate as consultant in Northern Health. Also on Northern Health strength, a medical zone superintendent was appointed for the MacKenzie and Yukon areas and a full-time physician and nurse established at Fort Smith, N.W.T. to co-operate with the Indian Health Service personnel already working there.

Significant advances were made in the sphere of public health nursing during 1955. Seven supervisory positions were set up and there was an increase of nine in the public health staff nursing establishment. Improvements were also effected on the administrative side. A senior administrative officer was appointed by the Eastern Regional office at Ottawa and trained hospital administrators commenced duties at three hospitals—Sioux Lookout, Ont.; Miller Bay, B.C.; and North Battleford, Sask. A Requirements Control Officer was appointed to Head Office to develop and introduce standards and scales of issue and to ensure economical supply to all units.

### **Professional Improvement**

Two medical officers were successful in obtaining the Diploma in Public Health during the year, and four nurses completed a course in Public Health nursing.

A Pembine-type conference, in which three hospitals presented a series of consecutive tuberculosis discharges from a predetermined and arbitrarily-selected date, was held by the Directorate at Brandon Sanatorium on June 12, 1955. This was the first time that such a meeting had been held on this scale in Canada. Twenty Departmental medical officers attended, and an equal number of guests, from seven provinces, were present.

On the administrative side, the Assistant Director attended a one month training course for senior government officers during the summer, and two field officers were enrolled in an extension course in hospital administration. In March, 1956 an Executive Development Course was held in Ottawa by the Directorate. Fifteen administrative officers from all regions attended the meetings, which lasted for three weeks. National and local conventions of medical, nursing and hospital organizations were attended by various officers, and some received short courses of extra training.

### **Facilities**

Further improvements were effected at Charles Camsell Hospital, Edmonton, and the workshops and garage were renovated at Norway House Hospital, Man. Six new nursing stations were set up at Fort Good Hope, N.W.T.; Split Lake, Man.; Pelican Narrows, Sask.; Sandy Lake, Ont.; Frobisher Bay, Eastern Arctic; and Goodfish Lake, Alta. Two new health centres were put into operation at Manowan, Que., and Fort Chipewyan, N.W.T.

### **CO-OPERATION WITH OTHER AGENCIES**

The extensive use made of local professional and treatment services has already been mentioned. In many areas provincial authorities have co-operated with the Service in case finding and other public health endeavours. A fine working relationship exists with other government departments operating in areas inhabited by Indians and Eskimos, and special tribute must be paid to the help repeatedly given by the Royal Canadian Mounted Police and the Royal Canadian Air Force. In all parts of the country, but particularly in the far North, the Directorate leans heavily on the goodwill of religious groups of all denominations and on the continuing assistance given by many trading and commercial concerns. Most intimate of all has been the association between officers of the Service and the administrators of Indian Affairs in the Department of Citizenship and Immigration and the administrators of Eskimo Affairs in the Department of Northern Affairs and National Resources. To both these agencies must be given the highest praise for their outstanding work on behalf of the native peoples.



TABLE 11  
(Indian and Northern Health Services)  
DEPARTMENTAL FACILITIES  
December 31, 1955

AREA	Registered Indians* and Eskimos†	Hospitals	Nursing Stations	Health Centres	Clinics
Maritimes.....	5,841	—	2	4	1
Quebec.....	19,836	—	5	14	1
Ontario.....	37,249	3	7	12	5
Manitoba.....	19,684	6	8	2	4
Saskatchewan.....	18,786	2	5	5	3
Alberta.....	15,767	4	6	4	4
British Columbia.....	31,086	3	—	11	6
Yukon and N.W.T.....	12,071	—	7	7	3
Labrador.....	1,117	—	—	—	—
TOTALS.....	163,500‡	18	40	59	27

\* 1954.

† 1951.

‡ Estimated for 1955.

TABLE 12  
(Indian and Northern Health Services)  
NURSING STATION ACTIVITIES  
CALENDAR YEAR 1955

PROVINCE	Number of Nursing Stations	Rated Bed Capacity	Admissions	Patient Movement			Patient Days
				Discharges	Separations Transfers	Deaths	
Nova Scotia.....	1	4	19	15	7	.....	119
New Brunswick.....	1	6	66	55	8	1	315
Quebec.....	5	20	200	152	43	.....	1,341
Ontario.....	7	38	576	496	79	9	4,526
Manitoba.....	8	32	420	358	60	5	1,777
Saskatchewan.....	5	20	603	469	124	5	3,098
Alberta.....	6	37	625	570	47	6	4,350
Yukon and Northwest Territories.....	7	28	65	55	8	.....	451
TOTALS.....	40	185	2,574	2,170	376	26	15,977

TABLE 13  
(Indian and Northern Health Services)  
PROFESSIONAL POSITIONS  
AT JANUARY 1, 1956

Province	MEDICAL OFFICERS			GRADUATE NURSES		Dental Surgeons	Physicians Part-time	Administrative Officers
	Admin.	Hosp.	Field	Admin.	Hosp.			
Maritimes.....	1	.....	1	1	.....	1	8	.....
Quebec.....	1	.....	1	1	12	1	6	.....
Ontario.....	1	9	6	2	60	2	19	2
Manitoba.....	1	2	5	1	16	1	4	2
Saskatchewan.....	1	5	3	1	23	1	1	3
Alberta.....	1	13	5	1	91	2	2	3
British Columbia.....	1	11	7	1	96	1	21	4
N.W.T. and Y.T.....	1	.....	8	0	0	1	1	.....
Headquarters.....	5	.....	.....	1	.....	.....	.....	3
TOTALS.....	12	40	36	9	286	10	62	17

TABLE 14  
(Indian and Northern Health Services)  
HOSPITAL ACTIVITIES  
CALENDAR YEAR 1955

PROVINCE	Hospital	RATED CAPACITY		Average No. of Beds Occupied	PATIENT MOVEMENT				Patient Days
		Beds	Bass.		Admissions	SEPARATIONS		Deaths	
						Discharges	Transfers		
ONTARIO.....	Lady Willingdon.....	44	10	29.6	850	816	21	22	10,804
	Moose Factory.....	142	18	175.9	1,063	735	311	8	64,189
	Sioux Lookout.....	70	8	63.2	795	686	65	15	23,066
	* Brandon.....	240	16	244.9	192	169	26	7	89,387
MANITOBA.....	* Clearwater Lake.....	150	4	148.3	207	152	68	3	54,131
	* Dynevor.....	40	10	47.8	70	50	17	1	17,461
	Fisher River.....	32	4	18.1	609	581	19	14	6,606
	Fort Alexander.....	20	5	12.0	537	493	35	6	4,390
	Norway House.....	34	4	38.0	709	678	38	10	13,865
	Fort Qu'Appelle.....	112	6	108.9	702	680	23	10	39,742
SASKATCHEWAN.....	North Battleford.....	55	6	54.6	1,273	1,194	54	23	19,934
ALBERTA.....	Blackfoot.....	37	4	11.5	490	466	22	6	4,206
	Blood.....	46	5	29.1	1,084	1,078	13	13	10,625
	Charles Camsell.....	568	6	438.0	1,024	1,031	7	19	159,873
	Hobbema.....	27	4	17.8	819	797	27	9	6,512
BRITISH COLUMBIA.....	Coqualeetza.....	190	.....	148.0	371	255	68	3	54,036
	Miller Bay.....	171	.....	143.4	178	186	34	6	52,353
	Nanaimo.....	215	.....	194.3	210	163	50	6	70,938
TOTALS.....	.....	2,193	110	1,923.6	11,183	10,210	898	181	702,118

\* Operated for the Department by the Sanatorium Board of Manitoba.



TABLE 15  
(Indian and Northern Health Services)  
TOTAL PATIENT MOVEMENT  
CALENDAR YEAR 1955

GENERAL										
	UNDER CARE			SEPARATIONS				In at End	DAYS OF CARE	
	In	Adm*	Tot.	Dis.	Tr.	Died	Tot.		P.D.	P.D.S.
INDIAN										
Dept. Hosp. and N.S.	446	11,373	11,819	10,535	609	175	11,319	500	186,746	165,856
Non-Dept. Hosp.—excluding B.C.H.I.S.	526	19,643	20,169	18,597	309	220	19,126	1,043	242,934	230,399
—B.C.H.I.S.	†	†	†	†	†	†	†	†	90,622	†
TOTAL INDIAN	972	31,016	31,988	29,132	918	395	30,445	1,543	520,302	396,255
ESKIMO										
Dept. Hosp. and N.S.	44	248	292	173	59	3	235	57	15,936	11,769
Non-Dept. Hosp.	34	519	553	440	26	.....	466	87	21,582	19,215
TOTAL ESKIMO	78	767	845	613	85	3	701	144	37,518	30,984
INDIAN AND ESKIMO										
Dept. Hosp. and N.S.	490	11,621	12,111	10,708	668	178	11,554	557	202,682	177,625
Non-Dept. Hosp.—excluding B.C.H.I.S.	560	20,162	20,722	19,037	335	220	19,592	1,130	264,516	249,614
—B.C.H.I.S.	†	†	†	†	†	†	†	†	90,622	†
TOTAL INDIAN AND ESKIMO	1,050	31,783	32,833	29,745	1,003	398	31,146	1,687	557,820	427,239

\* Includes Transfers In.

† Not Available.

TABLE 15 (Continued)  
(Indian and Northern Health Services)  
TOTAL PATIENT MOVEMENT  
CALENDAR YEAR 1955

	TUBERCULOSIS									
	UNDER CARE			SEPARATIONS				In at End	DAYS OF CARE	
	In	Adm.*	Tot.	Dis.	Tr.	Died	Tot.		P.D.	P.D.S.
INDIAN										
Dept. Hosp. and N.S.	1,368	1,811	3,179	1,561	473	25	2,059	1,120	450,597	613,638
Non-Dept. Hosp.	1,167	1,532	2,699	1,292	206	37	1,555	1,164	428,857	393,991
TOTAL INDIAN	2,535	3,343	5,878	2,853	679	62	3,594	2,284	879,454	1,007,629
ESKIMO										
Dept. Hosp. and N.S.	158	325	483	111	133	4	248	235	64,816	65,157
Non-Dept. Hosp.	248	625	873	276	125	9	410	463	118,520	93,317
TOTAL ESKIMO	406	950	1,356	387	258	13	658	698	183,336	158,474
INDIAN AND ESKIMO										
Dept. Hosp. and N.S.	1,526	2,136	3,662	1,672	606	29	2,307	1,355	515,413	678,795
Non-Dept. Hosp.	1,415	2,157	3,572	1,568	331	46	1,945	1,627	547,377	487,308
TOTAL INDIAN AND ESKIMO	2,941	4,293	7,234	3,240	937	75	4,252	2,982	1,062,790	1,166,103

\* Includes Transfers In.

TABLE 15 (Continued)

(Indian and Northern Health Services)

## TOTAL PATIENT MOVEMENT

CALENDAR YEAR 1955

		M E N T A L									
		UNDER CARE			SEPARATIONS				In at End	DAYS OF CARE	
		In	Adm*	Tot.	Dis.	Tr.	Died	Tot.		P.D.	P.D.S.
INDIAN											
Dept. Hosp. and N.S.		330	140	470	92	4	21	117	353	123,346	91,365
Non-Dept. Hosp.											
TOTAL INDIAN		330	140	470	92	4	21	117	353	123,346	91,365
ESKIMO											
Dept. Hosp. and N.S.		10	3	13	1			1	12	3,888	10
Non-Dept. Hosp.											
TOTAL ESKIMO		10	3	13	1			1	12	3,888	10
INDIAN AND ESKIMO											
Dept. Hosp. and N.S.		340	143	483	93	4	21	118	365	127,234	91,375
Non-Dept. Hosp.											
TOTAL INDIAN AND ESKIMO		340	143	483	93	4	21	118	365	127,234	91,375

\* Includes Transfers In.

TABLE 15 (Concluded)  
(Indian and Northern Health Services)  
TOTAL PATIENT MOVEMENT  
CALENDAR YEAR 1955

	GENERAL, T. B., AND MENTAL									
	UNDER CARE			SEPARATIONS				In at End	DAYS OF CARE	
	In	Adm*	Tot.	Dis.	Tr.	Died	Tot.		P.D.	P.D.S.
INDIAN Dept. Hosp. and N.S. .... Non-Dept. Hosp.—excluding B.C.H.I.S. —B.C.H.I.S. ....	1,814 2,023 †	13,184 21,315 †	14,998 23,338 †	12,096 19,981 †	1,082 519 †	200 278 †	13,378 20,778 †	1,620 2,560 †	637,343 735,137 90,662 †	779,494 715,755 †
TOTAL INDIAN .....	3,837	34,499	38,336	32,077	1,601	478	34,156	4,180	1,523,142	1,495,249
ESKIMO Dept. Hosp. and N.S. .... Non-Dept. Hosp. ....	202 292	573 1,147	775 1,439	284 717	192 151	7 9	483 877	292 562	80,752 143,990	76,926 112,542
TOTAL ESKIMO .....	494	1,720	2,214	1,001	343	16	1,360	854	224,742	189,468
INDIAN AND ESKIMO Dept. Hosp. and N.S. .... Non-Dept. Hosp.—excluding B.C.H.I.S. —B.C.H.I.S. ....	2,016 2,315 †	13,757 22,462 †	15,773 24,777 †	12,380 20,698 †	1,274 670 †	207 287 †	13,861 21,655 †	1,912 3,122 †	718,095 939,127 90,662 †	856,420 828,297 †
TOTAL INDIAN AND ESKIMO .....	4,331	36,219	40,550	33,078	1,944	494	35,516	5,034	1,747,884	1,684,717

\* Includes Transfers In.

† Not Available.



TABLE 16  
(Indian and Northern Health Services)  
T. B. DEATH RATES PER 100,000 POPULATION

—	1946	1947	1948	1949†	1950	1951	1952	1953	1954	1955
All Canada.....	47.4	43.4	37.1	30.4	25.9	24.4	17.1	12.3	10.3	.....
Indian.....	579.1	549.1	488.5	399.6	298.8	262.2	167.5	100.3*	60.2	48.8‡
White.....	41.9	41.9	32.5	26.7	22.0	20.7	14.7	11.4	9.8	.....

\* For the first time includes those of Indian status only.

† Includes Newfoundland.

‡ Provisional.

TABLE 17  
(Indian and Northern Health Services)  
SELECTED ASPECTS OF TUBERCULOSIS CASE FINDING PROGRAM  
CALENDAR YEAR 1955

	REGION					
	Eastern	Central	Sask.	Foothills	Pacific	Total
<i>Native Population</i>						
A. Indian.....	50,202	30,214	18,750	21,807	30,585	151,558
B. Eskimo.....	5,200	1,832	.....	2,461	.....	9,493
<i>Number of X-Rays Taken on Field Surveys</i>						
A. Indian.....	16,206	18,604	12,610	15,285	17,135	79,840
B. Eskimo.....	4,166	1,131	.....	1,515	.....	6,812
C. Others.....	302	2,443	2,947	8,240	757	14,689
<i>Number of X-Rays Taken on School Surveys</i>						
A. Indians.....	2,440	2,498	2,111	4,210	Included under field Surveys	11,259
B. Eskimo.....	7	.....	.....	369	.....	376
C. Others.....	79	323	199	1,140	.....	1,711
<i>Number of Active Cases</i>						
A. Diagnosed for the first time.....	881	165	141	17	65	1,329
B. Previously known	243	16	327	2	.....	588
i. known to be active.....	85	75	26	24	.....	210
ii. Re-activation.....	.....	.....	.....	.....	.....	.....
Number of Active cases discovered by means other than field and school surveys.....	204	73	(*)	140	86	503
Number of active cases discovered on Surveys hospital-ized by January 1, 1956.....	651	185	(*)	93	132	1,061

(\*) Not Available.

## MEDICAL ADVISORY SERVICES

### CIVIL AVIATION MEDICINE DIVISION

The Division has continued to carry out its function of medical adviser to the government and associated agencies on problems related to the health, safety and comfort of air crew, ground crew and airline passengers. The rapid expansion of civil aviation in Canada has produced a corresponding increase in requests for advice. A considerable portion of this advice has been concerned with the administration of air regulations as applying to medical requirements for aviation personnel licensed by the Department of Transport. Medical examination reports and electrocardiograms received for review have increased from approximately 3,000 in 1945 to nearly 18,000 in 1955.

The policy of establishing a district medical officer on a part-time basis in each Department of Transport district office has proven its value in expediting issue and renewal of pilot licenses at the district level. Since many medical problems can be resolved at the district level with the assistance of the district medical officer, the liaison between the primary medical examiner and the Department of Transport has been improved.

Continuing attention to the revision of medical requirements for civil aviation personnel has been necessary. The problem of early rehabilitation of commercial pilots following illness or injury, the problem of the older but experienced commercial pilot with a partial disability, and internationally-acceptable standards of vision and hearing have been given careful consideration and discussed at length with medical specialists in the appropriate fields. When the current revision of the "Department of Transport Provisional Standards for Aviation Personnel" and the "Department of National Health and Welfare Handbook for Civil Aviation Medical Examiners" is complete, it is intended to combine the two publications as a "Manual for Civil Aviation Medical Examiners."

The current method of recording pilot medical examination information for statistical purposes is being discontinued. Following consultation with the Royal Canadian Air Force Institute of Aviation Medicine, the Department of Transport and the Research and Statistics Division of this Department, a punch card system has been devised whereby coding will be completed by this Division while punching and sorting will be handled by the Department of Transport.

Establishment of Regional Medical Consultant Boards has now been completed in five of the seven centres necessary. These Boards are particularly useful in the settlement of contentious cases of marginal physical disability as well as in the assessment of physical competence of aircrew concerned in aircraft accidents. With the increasing number of pilots in the older age groups, the need for careful and unbiased assessment becomes increasingly obvious.

The Division continues active in the promotion of education in aviation medicine for medical examiners. In co-operation with the Royal Canadian Air Force Institute of Aviation Medicine, it has been possible to sponsor special short courses on various important subjects related to both the safety and comfort of passengers as well as aircrew. District medical officers and medical examiners appointed by the Department of Transport attended these courses.

The International Civil Aviation Organization recently recommended that more research should be carried out by contracting States in the field of aviation medicine, with particular reference to research on hearing, vision, colour perception and aeronautical speech communication. Although the Division is not in a position to undertake primary research on its own responsibility, close liaison has been maintained with the National Research Council, the Defence Research Board, the Royal Canadian Air Force

Institute of the Department of National Defence and the Department of Transport in considering these subjects. There is, of course, free exchange of information between these agencies on subjects concerning civil air transportation. Considerable progress has been achieved in the facilitating of crash injury reporting, investigation of fatigue and reasonable hours of duty for commercial pilots and air traffic control personnel and the problems of air transportation of medical supplies or injured persons related to civil defence.

### CIVIL SERVICE HEALTH DIVISION

For the past nine years this Division has been assuming responsibility for providing an occupational health program to the federal public service. Just as any developing organization approaching its tenth year taxes the physical limitations of its original home and the energies and ingenuity of its founders, so too in the Civil Service Health Division the years have brought rapid expansion of service to government departments and their employees and the necessary increase of health units and nursing counsellors without any accompanying increase in administrative and clinical facilities and personnel. This calls for careful planning to make the most economical use of professional time and for the establishment of priorities of service which are least likely to curtail its quality and growth. After almost a decade of experience, the Division is now in a period of program appraisal, adaptation and accommodation to stretch its service to meet growing demands without sacrificing quality of service and the objectives and ideals with which it started.

Health units service is now extended to 25,900 federal government employees and their departments through 20 health units and two part-time units, whereas clinical and advisory services continue to be available to the total 32,600 government employees in Ottawa. Although the provision of direct service to employees is still limited to the Ottawa area, advisory service to departments with regard to their establishments throughout Canada and abroad has steadily increased.

Significant changes in government regulations have increased the responsibility of this division in the planning and implementation of new health provisions. These changes have had a direct effect on the variety and volume of clinical work conducted at the Health Centre. Routine medical examinations for permanent appointment were discontinued in 1954. However, the new Public Service Superannuation Act introduced several additional classes of medical examination, all of which had either to be done at the Health Centre or arranged for by this division utilizing the facilities of the Department of Veterans Affairs or private physicians. Examinations for contribution to the superannuation account in connection with the picking up of prior public service, examinations for extension of employment beyond the age of 65 and re-examination of employees granted an annuity or allowance under the Act in respect of disability previously incurred are examples of these new classes.

In October, 1955, the division extended its advisory services to the departments of Trade and Commerce and External Affairs. Where formerly foreign service officers and employees only were examined prior to and on returning from postings abroad, the division now is called upon to provide similar services to all dependents of foreign service personnel posted to unhealthy posts. Where such examinations cannot be provided in Ottawa, arrangements must be made outside Ottawa. This new medical plan for foreign service personnel and their dependents also includes provision for treatment for conditions attributable to the post abroad. All arrangements for treatment are made by the Health Centre, utilizing wherever possible the Department of Veterans Affairs outpatient clinics or hospitals.

Further, there has been an increasing demand by departments for examinations for special purposes: annual examinations for employees of Mines and Technical Surveys



proceeding on field work; periodic examinations for employees from the Bureau of Mines and other departments handling radioactive materials; pre-employment examinations where an estimate of physical capacity for the job is required; periodic health assessments for selected groups of senior administrative personnel; and ophthalmological examination of employees engaged in work demanding a high standard of visual efficiency. The special training in ophthalmology obtained by one of the medical officers is proving most useful in this latter phase of the work. The volume of immunizations carried out at the Health Centre has also steadily increased. Practically all persons proceeding abroad from Ottawa receive smallpox vaccination and in many cases inoculations against typhoid and paratyphoid fevers, cholera, yellow fever and occasionally typhus fever. All of these commitments have taxed to capacity the clinical facilities and staff of the Health Centre which during the past year has operated with one fewer than its normal complement of medical officers.

One of the primary functions of the division when it was created was to supervise the health of government employees through close co-operation and consultation with the nursing counsellors in the health units. They were to be the case-finders who would at all times have available to them medical advice and complete facilities for investigation of problem cases. Recently it has become increasingly difficult to meet this heavy demands of referrals. Without additional staff and facilities the division will be forced to curtail some of the clinical load now being undertaken. This situation is causing much concern and interfering seriously with the continued fulfillment of this basic objective.

During the past year minor structural changes in the Health Centre made possible the return of the division psychologist who, for lack of space, has had his office in another building for several years. This provides closer association with the clinical staff, a factor of considerable importance in view of the increasing work load. The increasing number of referrals from External Affairs and other departments to assess posting fitness adds greatly to the responsibility and contribution of the psychologist and psychiatrist. Although only a relatively small percentage are considered unfit for posting, helpful recommendations and suggestions are made as to the type of posting that will best suit the different personalities. These interviews also afford an opportunity for personal and vocational direction that should increase their usefulness to the job.

There have been also an increasing number of requests from departments and from the Civil Service Commission for assessment of employee suitability for continued employment or re-employment of persons whose service has been marred by a combination of physical, emotional and mental factors. This increase is gratifying since it indicates that the efforts of the nursing counsellors and the clinical staff to interest and involve departments in a positive preventive approach to problems are gaining support. Appropriately, the more recent emphasis of the psychiatrist's program has also been to develop individual and small group discussions with personnel officers and administrators. These are similar to those he has been conducting with the nursing counsellors. Frequently he confers jointly with departmental officers and a health unit staff to discuss and advise regarding the contribution each can make towards the emotional health of employees, individually and collectively. He also uses this opportunity to encourage their use of the library of psychiatric articles, studies and reprints which he has made available in each health unit.

The efforts of the division staff toward employee rehabilitation through co-operative effort are not restricted to the public service but extend into the Ottawa community, of which the civil servant population forms such a large part. The professional staff are actively engaged in developing mutually helpful relationships with all of the local health and welfare agencies and in the planning for a co-ordinated, comprehensive community approach to rehabilitation. It is encouraging and exceedingly helpful in the Division's

work with the employees to note the recent developments in all local services but particularly in the areas of cancer treatment, mental health facilities, alcoholism research and treatment, visiting homemaker services and increased community interest in and programs for older citizens.

### Staff Education

In staff education this year most of the Division's personnel participated in studies and discussions regarding "Working Mothers". This subject was timely in view of the new legislation ensuring equal opportunity in the public service to women regardless of their marital status and the projected changes in maternity leave regulations. These discussions were stimulating and pointed up ways in which the resources of this division and the community can be mobilized most effectively to assist the working mother and to minimize the strain on family life.

Members of the division continued to contribute to educational groups and publications. In addition to aiding field students in medicine and public health nursing, the staff continued to participate in the counselling courses for personnel officers sponsored by the Civil Service Commission. The chief of the division also spoke to two courses held at Arnprior for administrative officers in the public service and participated in a panel discussion at the eastern regional conference of the Civil Service Assembly of the United States and Canada.

### Co-operative Projects

Close liaison and co-operation with other divisions and other departments have been maintained and the confidence of employees secured, enabling several fact-finding studies to be successfully completed. The findings of a survey on acute respiratory disease have already been published in the December, 1955, issue of the *Canadian Services Medical Journal*, as has an article on the 'Mental Health Program for the Federal Civil Service'. Two projects were jointly undertaken with the Nutrition Division. One involved the review of breakfast habits of 10,000 employees. This revealed that approximately one-third eat an inadequate breakfast and other interesting data which has provided fresh material for the nursing counsellors' nutrition teaching; the other provided information about the difference in the weights of individuals weighed with and without clothing, which information is important to the new Canadian height and weight survey.

A more active campaign was carried out during the past year with regard to environmental hazards and poor working conditions and with the assistance of the Occupational Health Division a large number of improvements were effected. Appropriate first aid supplies were furnished and special arrangements for health services were made as necessary. Negotiations were also concluded for the co-operation of the City Health Department in inspecting regularly all cafeterias and canteens in government buildings in Ottawa. Adverse conditions will be reported to this division, and appropriate action will be taken for their correction. This division also facilitated arrangements between the Canadian Cancer Society and government departments whereby 2,500 employees participated in the educational program of the mobile Red Door during a three-day period last April. This was well received and is being made available again during the whole month of June, 1956.

### New Health Units

During the past year a small health unit was opened to extend part-time service to civilian employees of the Department of National Defence at Plouffe Park. A similar part-time service is being planned for Defence employees in the Metcalfe Building, and another health unit to provide full-time service to civilians at Rockcliffe Air Station

is nearing completion. The Daly Building has now been re-occupied by various groups, and a health unit will shortly be opened on the main floor to serve this building and small nearby groups. Employees and their departments in the East Block of the Parliament Buildings have recently expressed anxiety about their lack of a health unit. Since there is no adequate space available, a temporary arrangement has been made for them to utilize the health unit in the Post Office, an arrangement which is not completely satisfactory because of the time and distance involved.

Generally the desire for health unit service has increased, and departments are showing gratifying interest in providing space that is adequate in amount and location. Among those definitely projected and for which plans have been submitted are the new Mines and Technical Surveys Building; the Science Service Building of the Department of Agriculture at the Dominion Experimental Farm; the second Veterans' Memorial Building; and in the new buildings for the Post Office and the Department of Public Works in the Riverside Drive area. With the trend toward de-centralization of government buildings into various outlying areas (e.g., Tunney's Pasture, Billings Bridge and Shirley Bay), the geographic distribution of the health units is changing; however, the major concentration will likely remain central for years and require the continuance of the central location of administrative and clinical facilities. The greater distances are time-consuming and add to the problems of administration and supervision.

Following are statistics dealing with activities during the past fiscal year in the Health Units and at the Health Centre. Appended, also, is a statement of Retirements from Service, according to disability, during 1955-6.

## DEPARTMENT OF NATIONAL HEALTH AND WELFARE

TABLE 18  
(Civil Service Health Division)  
HEALTH UNIT STATISTICS  
By Months, Fiscal Year 1955-1956

	Total	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Number of personnel under supervision.....		24,394	24,723	24,527	24,893	24,790	24,822	24,820	25,450	25,359	25,682	25,986	25,900
Number of Health Units in operation.....		20	20	20	20	20	20	20	20	20	20	20	20
Number of visits—													
Total.....	174,736	12,880	14,885	15,554	13,604	14,505	14,532	14,874	14,545	14,563	15,230	15,050	14,514
First visit.....	123,842	9,190	10,577	10,949	9,801	10,280	10,306	10,752	10,293	10,750	10,750	10,439	10,036
Repeat visit.....	50,894	3,690	4,308	4,605	3,803	4,215	4,226	4,142	4,252	4,074	4,480	4,621	4,478
Visits by sex—													
Total.....	174,736	12,880	14,885	15,554	13,604	14,505	14,532	14,874	14,545	14,563	15,230	15,050	14,514
Males.....	83,452	6,038	7,053	7,435	6,387	6,912	7,128	7,118	6,976	6,991	7,393	7,259	6,772
Females.....	91,284	6,842	7,832	8,119	7,217	7,593	7,404	7,756	7,569	7,572	7,837	7,791	7,742
Nature of visits—													
Total.....	174,736	12,880	14,885	15,554	13,604	14,505	14,532	14,874	14,545	14,563	15,230	15,050	14,514
Illness.....	74,910	5,448	6,280	6,677	6,034	6,366	6,205	6,223	6,095	6,081	6,493	6,678	6,380
Accident.....	15,850	1,114	1,597	1,561	1,436	1,383	1,315	1,260	1,260	1,296	1,194	1,212	1,218
Consultations.....	17,228	1,265	1,415	1,609	1,297	1,333	1,524	1,408	1,428	1,223	1,646	1,595	1,485
Return-to-work visits.....	66,748	5,053	5,593	5,707	4,837	5,423	5,488	5,979	5,762	6,013	5,897	5,565	5,431
Classification of first visits—													
Total.....	123,842	9,190	10,577	10,949	9,801	10,290	10,306	10,732	10,293	10,489	10,750	10,439	10,036
Respiratory.....	31,724	2,407	2,267	1,439	1,020	1,317	3,018	3,809	3,071	3,583	3,801	3,325	3,987
Digestive.....	20,467	1,438	1,086	2,198	2,351	2,582	1,607	1,254	1,593	1,254	1,504	1,345	1,216
Skin and cellular.....	8,961	603	908	1,032	1,134	965	645	506	481	711	604	614	595
Menstrual disorders.....	6,435	507	643	736	585	561	615	506	481	488	499	484	463
Emotional disorders.....	1,824	170	144	136	181	136	133	155	140	162	155	179	138
Contagious diseases.....	123	43	674	679	652	610	474	503	551	537	492	508	503
Accidents, non-industrial.....	9,583	369	453	478	409	422	411	406	450	447	428	449	431
Accidents, industrial.....	3,969	453	483	478	409	422	411	406	450	447	428	449	431
Ill-defined and all others.....	42,457	3,177	3,756	4,236	3,546	3,668	3,497	3,484	3,490	3,180	3,613	3,504	3,306
Disposal—													
Total.....	174,736	12,880	14,885	15,554	13,604	14,505	14,532	14,874	14,545	14,563	15,230	15,050	14,514
Sent home.....	4,515	376	353	387	334	334	400	447	358	333	361	417	415
Returned to work.....	170,221	12,504	14,532	15,167	13,270	14,171	14,132	14,427	14,187	14,230	14,869	14,633	14,099
Referrals—													
Total.....	12,097	931	1,021	1,146	929	1,118	1,025	1,062	1,124	801	1,043	981	886
Referred to Health Centre.....	2,613	229	224	255	169	225	194	216	275	175	274	218	139
Referred to family physician.....	8,546	636	715	790	697	816	745	788	751	598	692	696	662
Referred to community agencies.....	938	66	82	101	63	77	86	58	98	68	77	67	65

Index of Participation—  
Average monthly number of employee Health Unit  
visits per 100 personnel supervised.....58



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TABLE 19  
(Civil Service Health Division)  
HEALTH CENTRE STATISTICS  
FISCAL YEAR 1955-1956

NUMBER OF VISITS		
Total.....		7,018
First Visit.....	3,019	
Repeat Visit.....	3,999	
VISITS BY SEX		
Total.....		7,018
Male.....	4,615	
Female.....	2,403	
ANALYSIS OF VISITS		
Physical Examinations.....		2,738
Pre-employment, periodic, P.S.S.A.....	427	
Foreign Service, isolated duty, postings, etc.....	406	
Referrals—voluntary, department, health unit, etc.....	1,905	
Consultations, Interviews, etc.....		4,130
Psychological.....	819	
Psychiatric.....	284	
Special — eye, X-ray, immunization.....	3,027	
Accidents.....		150
Industrial.....	10	
Non-Industrial.....	140	
IMMUNIZATIONS		
Total number of employees immunized.....		1,709
Total immunizations.....		2,423
Smallpox.....	722	
T.A.B.T.....	700	
T.A.B.....	301	
Cholera.....	217	
Typhus.....	45	
Yellow Fever.....	358	
Other.....	80	
DISPOSAL		
Total.....		7,018
Returned to work.....	6,953	
Sent Home.....	65	
REFERRED TO FAMILY PHYSICIAN.....		110
TOTAL LABORATORY PROCEDURES.....		4,655
X-RAY		
Total.....		4,884
Chest.....	2,193	
Chest (photo-roentgen unit).....	2,135	
Other.....	556	

TABLE 20

(Civil Service Health Division)

## RETIREMENTS FROM SERVICE — ACCORDING TO DISABILITY

FISCAL YEAR 1955-1956

Male—181 Female—57 Total—238

Cause of Disability	AGE GROUPS					
	Under 40	40-44	45-49	50-54	55-59	Total
Infective and Parasitic.....	0	2	1	3	2	8
Neoplasms.....	1	1	4	2	10	18
Allergic, endocrine Metabolic, nutritional.....	0	1	0	1	7	9
Blood and Blood Forming.....	0	0	0	0	0	0
Mental psychoneurotic personality.....	7	4	8	9	14	42
Nervous systems and sense organs.....	1	0	2	5	24	32
Circulatory.....	0	1	5	16	51	73
Respiratory.....	0	0	0	1	15	16
Digestive.....	2	1	2	1	7	13
Genito-urinary.....	0	0	1	0	1	2
Pregnancy, childbirth.....	0	0	0	0	0	0
Skin and Cellular.....	0	0	0	0	0	0
Bones and organs of movement.....	0	0	1	1	15	17
Congenital Malformation.....	0	0	0	0	1	1
Symptoms and Ill defined.....	0	0	1	1	4	6
Accidents and results of old injuries.....	0	0	0	0	1	1
TOTAL.....	11	10	25	40	152	238

## QUARANTINE, IMMIGRATION MEDICAL AND SICK MARINERS SERVICES

### Introduction

The Quarantine, Immigration Medical and Sick Mariners Services administer a number of acts and statutory regulations dealing with the health aspects of international travel and immigration, the treatment of sick mariners and the diagnosis and treatment of leprosy. In addition, medical facilities and advice are made available to several government departments. Various periodic and special examinations are conducted for the Department of Transport which include those on marine, harbour and river pilots, special groups of employees destined to serve in remote areas and the examination of seamen in accordance with the Medical Examination of Seafarers Regulations, the latter service being provided through Order-in-Council P.C. 1955-667 dated May 5th, 1955.

### Quarantine Service

The Quarantine Service administers the Quarantine Act and regulations and the Leprosy Act.

The six major quarantinable diseases are smallpox, plague, cholera, yellow fever, typhus and louse-borne relapsing fever. Canada's role under the International Sanitary Regulations requires that all travellers coming from countries other than the United States, Alaska, Greenland, Iceland, the islands of St. Pierre and Miquelon, Bermuda,

Cuba, Jamaica, the Bahamas, the Virgin Islands, Puerto Rico, the Panama Canal Zone or the Hawaiian Islands, shall furnish to the quarantine officer evidence that they are immune from smallpox by reason of, within the three years immediately preceding their arrival, either having had the disease or having been vaccinated against it.

Canada also co-operates in international measures to prevent plague by controls designed to guard against the port to port migration of rats. For Canadians who propose to visit areas of the world where yellow fever is prevalent, this Service maintains 15 centres across Canada where yellow fever inoculations are administered free of charge and during the past year 5,763 inoculations were administered and international certificates issued. The Royal Canadian Navy is now making use of these facilities and quarantine officers on both coasts are called upon to inoculate entire crews prior to naval training cruises to tropical areas where the danger of infection is present. At the chief east and west coast ports facilities are maintained to deal with persons and conveyances found to be infected with any disease or infested with vermin, and the proper facilities for the examination and sterilization of goods or things so infected or infested are kept always in a state of readiness.

Information concerning outbreaks of quarantinable diseases in most countries is gathered by the World Health Organization and transmitted to all member States for the application of any necessary and approved health measure. Routine weekly summaries go forth to all quarantine officers and information of vital importance is transmitted to them immediately it is received.

Of major concern is smallpox because of its highly infectious nature and quarantine officers are constantly on the alert in the enforcement of the Quarantine Regulations to ensure that all persons entering Canada, except those from countries mentioned in a preceding paragraph, have complied with the necessary requirements. It is estimated that approximately 675,000 persons are vaccinated or revaccinated annually for the purpose of international travel.

The number of vessels, crew members, passengers and other persons inspected at organized quarantine stations is shown in Tables 21 and 23 following. Local customs officers in their capacity as quarantine officers at unorganized ports, reported the entry of an additional 733 vessels.

The number of vessels inspected for vermin and rodents and results of such inspections are shown in Table 22 following.

Approximately 119,000 International Certificates of Inoculation and Vaccination were issued.

TABLE 21  
(Quarantine Service)  
SHIPS BOARDED BY QUARANTINE OFFICERS, 1955-1956  
The following table indicates the number of ships boarded during the fiscal year 1955-1956,  
also total personnel on board, divided into their respective groups.

STATION	Vessels Inspected	PERSONNEL INSPECTED					Port Totals
		Crews	Passengers	Stowaways	Others		
Halifax, N.S.....	784	84,811	134,754	10	5	219,580	
Saint John, N.B.....	381	17,182	2,859	.....	9	20,050	
Quebec, P.Q.....	1,765	113,398	116,124	11	4	229,537	
William Head, B.C.....	622	28,813	7,284	9	5	36,111	
TOTALS.....	3,552	244,204	261,021	30	23	502,278	



TABLE 22  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1955-1956

Port	Vessels inspected, fumigated and deratization certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total Vessels inspected	Rodents Recovered	
						Rats	Mice
Halifax, N.S.....	4	45	84	1	134	.....	.....
Sydney, N.S.....	.....	10	.....	.....	10	.....	.....
Saint John, N.B.....	1	24	14	.....	39	.....	.....
Seven Islands, P.Q.....	.....	1	.....	.....	1	.....	.....
Quebec, P.Q.....	.....	11	.....	.....	11	.....	.....
Port Alfred, P.Q.....	.....	41	.....	.....	41	.....	.....
Three Rivers, P.Q.....	.....	3	.....	.....	3	.....	.....
Sorel, P.Q.....	.....	4	.....	.....	4	.....	.....
Montreal, P.Q.....	3	81	10	1	95	.....	33
Vancouver, B.C.....	11	96	54	237	398	35	.....
Victoria, B.C.....	.....	20	.....	93	113	.....	.....
Port Alberni, B.C.....	.....	4	.....	10	14	.....	.....
TOTALS.....	19	340	162	342	863	35	33

TABLE 23  
(Quarantine Service)  
INSPECTION OF AIRCRAFT SUBJECT TO QUARANTINE  
FISCAL YEAR 1955-1956

AIRPORT	No. of Aircraft	No. of Crew	No. of Passengers	Total Persons
Dorval, P.Q.....	1,276	10,954	46,097	57,051
Gander, Nfld.....	9,988	83,773	425,246	509,019
Goose Bay, Nfld.....	906	7,449	29,105	36,554
Malton, Ont.....	210	1,224	8,080	9,304
Moncton, N.B.....	121	1,083	5,035	6,118
Ottawa, Ont.....	7	72	209	281
Sea Island, B.C.....	574	3,506	19,399	22,905
Stephenville, Nfld.....	492	4,068	19,545	23,613
Sydney, N.S.....	408	3,619	16,946	20,565
Windsor, Ont.....	19	160	584	744
Winnipeg, Man.....	154	1,592	4,263	5,855
TOTALS.....	14,155	117,500	574,509	692,009

## Leprosy

Canada operates two Leprosaria. Patients from Eastern Canada are hospitalized in a wing of the Hotel-Dieu de St. Joseph Hospital at Tracadie, N.B., and those from Western Canada are treated at Bentinck Island, B.C.

Five patients were under treatment at Tracadie at the beginning of the year and five at the year's end, there being no admissions or discharges during the year. Five patients were treated at Bentinck Island, four having been in hospital at the beginning of the year and one of Chinese origin being admitted during the year. Two patients, one case and one contact, were discharged as non-infectious and placed under medical supervision at home to carry on treatment so that a recurrence will be prevented.

The Hotel-Dieu de St. Joseph Hospital at Tracadie affords patients the maximum of comfort and recreation. Twelve single rooms are available and recreational facilities include a woodworking shop and outdoor activities on a tract of land bordering the Gulf of St. Lawrence.

On Bentinck Island the institution is operated on the cottage system and patients have the freedom of the Island. Ambulatory patients care for their own cottages and may have gardens and do their own cooking if they so desire. All patients are under the supervision of a graduate nurse and medical care is provided by medical officers of this Department from nearby William Head Quarantine Station.

As the following statistics indicate, leprosy is no longer one of Canada's important health problems although in the 19th century there were over one hundred cases in a certain localized area. Continued and full use is being made of sulfatrone drugs, which

have done much to brighten the prognosis of persons afflicted. However, because of the toxic properties of these drugs, it is necessary in the initial stages of the disease to have them administered in hospital. When, after a period of treatment, it is found that the infection is under control patients are permitted to return home to continue treatment under the supervision of the local health authorities. Statistics for 1955-56 follow.

TABLE 24  
(Quarantine Service)  
LEPROSARIA ANNUAL CENSUS  
1955-1956

	Tracadie N.B.	Bentinck Island B.C.
<i>Inpatients:</i>		
Remaining from last year.....	5	4*
Admitted during the year.....	0	1
Died during the year.....	0	0
Discharged during the year.....	0	2*
Remaining in hospital.....	5	3
<i>Outpatients:</i>		
Arrested — cases discharged from hospital, continuing treatment at home under medical supervision.....	3	5
Total known cases in Canada.....	8	8
	16	

\* 1 case (contact)

## Immigration Medical Service

The Immigration Medical Service carries out or directs the preliminary medical examination of immigrants abroad; the final medical examination of immigrants, visitors and persons in transit, following arrival in Canada; the observation, clinical investigation and treatment of those who are found to be ill on arrival and the treatment of indigent immigrants who take ill following arrival while en route to their destination in Canada or while being accommodated pending placement in employment. Medical, diagnostic and treatment facilities are also provided for all persons accommodated or detained in immigration halls across Canada.

Preliminary medical prescreening is now carried out in the United States, the British Isles, the British West Indies, the Dutch West Indies, Mexico and Central America, various countries of South America, Australia, New Zealand, South Africa, North Africa, Lebanon, Israel, Iraq, the Dutch East Indies, Japan, Korea, South-east Asia, Spain, Czechoslovakia, Yugoslavia, Roumania, Poland, Hungary, Bulgaria, Iceland and the Azores. Medical reports from these countries are assessed in Ottawa, and the results are transmitted to the Immigration Branch of the Department of Citizenship and Immigration so that persons who are likely to be rejected on arrival at a Canadian port can be advised not to come forward. In addition, regularly-appointed roster doctors examine immigrants at Hong Kong, Karachi, New Delhi, Bombay and Calcutta.

Approximately 50 Canadian physicians were employed in Europe at offices located in the British Isles at London, Liverpool, Glasgow, Belfast and Dublin and in continental Europe at Paris, Brussels, The Hague, Copenhagen, Vienna, Rome, Athens, Karlsruhe, Hamburg, Munich, Hanover and Berlin. Assisting the Canadian medical officers in

Europe and working under their direction are roster doctors in the United Kingdom, Malta, Eire, Switzerland, Portugal, France, Norway, Sweden, Denmark and Finland.

The majority of immigrants now undergo complete medical examination before departure. This includes a chest X-ray and any specialized or laboratory examination that may be required. Final medical clearance is granted only after a final check following arrival in Canada.

Examinations and consultations by Canadian medical officers overseas and in Canada are free. Roster doctors and physicians doing medical prescreening and taking X-rays charge a fee for their services.

Many healthy immigrants come from countries having a high level of tuberculous infection and are more likely to develop tuberculosis than persons from countries with a low level of infection. The medical screening of immigrants has been so effective that the morbidity rate for tuberculosis in immigrants approximates the overall Canadian rate. When inactive cases of pulmonary tuberculosis are admitted, provincial departments of health are advised of the name and address so surveillance by local health authorities can be arranged.

Medical facilities for the examination of passengers arriving by ship are located at the following ports: St. John's, Nfld., Sydney, N.S., Halifax, N.S., Saint John, N.B., Port Alfred, Que., Quebec City, Que., Montreal, Que., Vancouver, B.C. and Victoria, B.C.

Medical facilities for the examination of passengers arriving by air are located at the following airports: Gander, Nfld., Stephenville, Nfld., Sydney, N.S., Moncton, N.B., Dorval, Que., Ottawa, Ont., Malton, Ont., Windsor, Ont., Winnipeg, Man. and Vancouver, B.C.

Department hospitals for the treatment of immigrants are located at Halifax, N.S., Saint John, N.B. and Quebec, Que. These hospitals are well equipped and provide up-to-date facilities for diagnosis, treatment and recreation for the patients

Departmental x-rays facilities are available at London, Liverpool, Glasgow and Paris overseas and at Halifax, N.S., and Quebec, Que., and Vancouver, B.C. in Canada.

Statistics relating to this Service follow.

TABLE 25  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES  
FISCAL YEAR 1955-1956

CANADA:

Immigrants medically inspected on arrival at ocean and air ports.....	111,282
Non-immigrants medically inspected on arrival at ocean and air ports.....	34,205
Certified as "prohibited" under Immigration Act, Section 5, (a) and (b).....	61
Certified as physically defective, Section 5 (c).....	686

OVERSEAS—(United Kingdom, Continent of Europe and Orient)

Prospective emigrants medically examined.....	131,199
Certified as "prohibited" under Immigration Act, Sec 5, (a) (b) and (i).....	2,415
Certified as physically defective, Section 5 (c).....	11,969
Re-examinations.....	27,795
<i>United Kingdom:</i>	
Prospective emigrants medically examined.....	50,470
<i>Continent of Europe:</i>	
Prospective emigrants medically examined.....	76,210
<i>Orient:</i>	
Prospective emigrants medically examined.....	4,519



(Table 25 continued)

## DETAILS OF EXAMINATIONS

## EXAMINATIONS OVERSEAS:

	Examinations	Re-examinations
By Canadian Medical Officers in British Isles.....	44,458	6,530
By Roster Doctors in British Isles.....	6,012	787
By Canadian Medical Officers on the Continent.....	72,209	19,868
By Roster Doctors on the Continent.....	4,001	539
By Roster Doctors in the Orient.....	4,519	71
Total — 1955-1956.....	131,199	27,795
Total — 1954-1955.....	153,556	31,585
<b>BRITISH ISLES:</b>		
Belfast by Canadian Medical Officers.....	2,851	772
Glasgow by Canadian Medical Officers.....	8,099	1,474
Liverpool by Canadian Medical Officers.....	9,414	1,632
London by Canadian Medical Officers.....	24,094	2,652
Belfast area by Roster Doctors.....	25	6
Dublin area by Roster Doctors.....	1,381	180
Eire area by Roster Doctors.....	258	40
Glasgow area by Roster Doctors.....	617	137
Liverpool area by Roster Doctors.....	1,784	193
London area by Roster Doctors.....	1,947	231
<b>CONTINENT:</b>		
Athens by Canadian Medical Officers.....	4,383	442
Berlin by Canadian Medical Officers.....	2,944	928
Bremen by Canadian Medical Officers.....	681	192
Brussels by Canadian Medical Officers.....	2,720	1,084
Copenhagen by Canadian Medical Officers.....	2,404	256
Hamburg by Canadian Medical Officers.....	2,706	587
Hanau by Canadian Medical Officers.....	1,501	329
Hannover by Canadian Medical Officers.....	7,700	1,832
Helsinki by Canadian Medical Officers.....	237	6
Karlsruhe by Canadian Medical Officers.....	7,035	1,757
Munich by Canadian Medical Officers.....	3,354	624
Near East by Canadian Medical Officers.....	331	0
Paris by Canadian Medical Officers.....	4,045	738
Portugal and Azores by Canadian Medical Officers.....	2,473	14
Rome by Canadian Medical Officers.....	18,341	8,488
The Hague by Canadian Medical Officers.....	7,115	1,227
Vienna by Canadian Medical Officers.....	4,239	1,364
Finland by Roster Doctors.....	647	109
Malta by Roster Doctors.....	308	142
Norway by Roster Doctors.....	928	115
Portugal by Roster Doctors.....	168	5
Sweden by Roster Doctors.....	607	106
Switzerland by Roster Doctors.....	1,343	62
<b>ORIENT:</b>		
Hong Kong by Roster Doctors.....	4,110	49
India by Roster Doctors.....	320	22
Pakistan by Roster Doctors.....	89	.....
Total.....	131,199	27,795

(Table 25 cont.)

## DETAILS OF EXAMINATIONS

## EXAMINATIONS IN CANADA:

	Immigrants	Non-Immigrants
Gander, Nfld.....	1,765	4,357
St. John's, Nfld.....	464	352
Halifax, N.S.....	29,301	1,502
Sydney, N.S.....	15	13
Saint John, N.B.....	1,652	157
Montreal, P.Q.....	1,807	763
Quebec, P.Q.....	44,795	11,472
Dorval, P.Q.....	5,097	8,247
Malton, Ont.....	2,558	1,508
Toronto, Ont.....	1,077	3
Fort Erie, Ont.....	4,619	730
Niagara Falls, Ont.....	3,259	455
Vancouver and Airport, B.C.....	3,840	1,991
Victoria, B.C.....	202	105
Others.....	10,831	2,550
Totals.....	111,282	34,205

TABLE 26

(Immigration Medical Service)

## CASES PRESCREENED AT HEAD OFFICE

FISCAL YEAR 1955-1956

Chest Films interpreted.....	14,312
Medicolegal problems considered.....	352
Medical cases reviewed.....	15,635
Total cases dealt with.....	15,987

TABLE 27  
(Immigration Medical Service)  
CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT  
FISCAL YEAR 1955-1956

	CANADA — Ocean and Air Ports	BRITISH ISLES		CONTINENT OF EUROPE		ORIENT	Total
		Examined by Can. M.O's.	Examined by Roster Drs.	Examined by Can. M.O's.	Examined by Roster Drs.		
Certified under:							
SS (a) Mental Diseases and Defects.....	21	106	8	142	13	3	293
SS (b) Chronic Infectious Diseases.....	40	403	55	1,288	57	338	2,181
SS (c) Physical Defects.....	686	3,516	586	7,225	406	236	12,655
SS (d) Chronic Alcoholism.....	.....	1	.....	1	.....	.....	2
Total.....	747	4,026	649	8,656	476	577	15,131

### Sick Mariners Service

Operating under Part V of the Canada Shipping Act and being in existence since Confederation, the Sick Mariners Service has the distinction of being one of the oldest prepaid medical coverages in the country. It was originally devised to prevent foreign seamen who were ill on their arrival in Canada from becoming public charges after their ships had sailed but it was later extended to cover coastal and fishing vessels.

Free medical, surgical and hospital care is provided to crew members employed on vessels paying Sick Mariners dues, for all conditions for periods up to one year, with the exception of permanent insanity. The collection of Sick Mariners dues is made by the local collectors of customs from vessels arriving at ports in the provinces of Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec, British Columbia, and those parts of Ontario and Manitoba which border on Hudson and James Bays. Payment of such dues is compulsory for all vessels arriving from foreign ports and from vessels which have made at least one voyage during the year in the interprovincial trade. Fishing vessels, however, are treated differently, inasmuch as the payment of dues is on a voluntary basis and the vessel so paying must be of Canadian registry, employed exclusively in fishing and makes the first payment of dues prior to the first fishing voyage in a calendar year. Applicable to all is the amount of dues fixed by the Act, which is two cents per net registered ton, and is payable each time a vessel enters port but not more than three times in a calendar year. The minimum payment, however, must be not less than two dollars.

Methods as simple as possible have been devised to enable a seaman to secure treatment. He merely applies to the captain of his ship, who completes a concise form showing certain particulars concerning the ship and the applicant. The application form is then signed by both the applicant and captain of the ship and presented to the local collector of customs who verifies the facts as stated, endorses the form and refers the sick or injured crew member to the nearest port physician. In cases of accident or emergency the seaman may be referred directly to the nearest hospital designated for the treatment of sick mariners and the port physician notified. Modern sick mariners clinics, staffed by medical Officers of the Department, are in operation at Sydney and Halifax, N.S., Saint John, N.B., Quebec and Montreal, Que., and Vancouver, B.C.

Port physicians employed on a part-time salary basis provide treatment at Lunenburg, North Sydney, Liverpool, Pictou, Digby and Yarmouth in Nova Scotia; Shippegan and Tracadie in New Brunswick; Port Alfred and Gaspé in Quebec; and at Victoria, Port Alberni and Powell River in British Columbia. In various other ports treatment is provided by designated physicians paid on a fee-for-service basis. A Marine Hospital is operated at Sydney, N.S., and, in addition to sick mariners, this hospital provides for admission and treatment for the Indians of the Eskasoni Indian Agency who are the responsibility of the Indian and Northern Health Services Directorate of this Department.

D.V.A. hospital facilities are being utilized in Halifax, N.S.; Saint John, N.B.; Quebec and Montreal, Que., and Vancouver, B.C. This arrangement has proven quite satisfactory.

The total number of hospitals in Canada authorized or appointed to treat sick mariners now stands at 157 and the number of port physicians, consultants and specialists employed during the year was 649.

Total dues collected during the calendar year 1955 was \$329,401.12. The total cost of treatment amounted to \$933,930.00. A total of 35,904 seamen received treatment for 60,293 diseases or injuries. Of this number 3,221 seamen were admitted to hospitals. The total number of crew members on vessels paying Sick Mariners dues was 117,110. Pulmonary tuberculosis cases discovered and treated amounted to 139, for an unadjusted rate of 119 per 100,000 persons. Tables relating to this Service follow.



TABLE 28

(Sick Mariners Service)

STATEMENT OF DISEASES AND INJURIES TREATED  
DURING THE FISCAL YEAR 1955-1956

DISEASE	CASES TREATED
Tuberculosis of respiratory system.....	100
Tuberculosis, other forms.....	39
Syphilis and its sequelae.....	2,443
Gonococcal infection.....	1,629
Dysentery, all forms.....	12
Other infective diseases commonly arising in intestinal tract.....	161
Certain diseases common among children: Scarlet Fever, Diphtheria, Whooping Cough, Measles and Mumps.....	55
Malaria.....	3
All other diseases classified as infective and parasitic.....	370
Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues.....	43
Benign neoplasms and neoplasms of unspecified nature.....	597
Allergic disorders.....	1,162
Diseases of thyroid gland.....	1,161
Diabetes mellitus.....	176
Avitaminosis and other deficiency states.....	108
Anaemias.....	2,731
Psychoneuroses and psychoses.....	1,014
Vascular lesions affecting central nervous system.....	331
Diseases of eye.....	749
Diseases of ear and mastoid process.....	1,127
Rheumatic fever.....	122
Chronic rheumatic heart disease.....	116
Arteriosclerotic and degenerative heart disease.....	239
Hypertensive disease.....	739
Diseases of veins.....	2,189
Acute nasopharyngitis (Common cold).....	4,704
Acute pharyngitis and tonsillitis, and hypertrophy of tonsils and adenoids.....	1,718
Influenza.....	2,992
Pneumonia.....	1,211
Bronchitis.....	3,064
All other respiratory diseases.....	2,032
Diseases of stomach and duodenum, except cancer.....	3,475
Appendicitis.....	585
Hernia of abdominal cavity.....	1,649
Diarrhoea and enteritis.....	1,093
Diseases of gall-bladder and bile duct.....	882
Other diseases of digestive system.....	4,405
Nephritis and nephrosis.....	898
Diseases of male genital organs.....	1,622
Boils, abscesses, cellulitis and other skin infections.....	2,469
Other diseases of skin.....	1,961
Arthritis and rheumatism, except rheumatic fever.....	1,667
Diseases of bones and other organs of movement.....	592
Other specified and ill-defined diseases.....	621
Accidents, poisonings and violence (external cause).....	1,367
Occupational accidents and occupational poisonings.....	3,041
Accidents and poisonings not specified as occupational.....	829
	60,293

TABLE 29  
(Sick Mariners Service)  
Revenue, Expenditure and Deficit Classified  
According to Type of Vessel  
CALENDAR YEAR 1955

Classification of Vessel	Revenue		Expenditure		Deficit		Deficit Expressed as Percentage of Revenue
	\$	c.	\$	c.	\$	c.	%
Foreign-going.....	314,583.53		448,286.40		133,702.87		42
Coasting.....	3,506.98		28,017.90		24,510.92		642
Fishing.....	11,310.61		359,563.05		348,252.44		3079
Government (not paying S.M. Dues) Treatment provided under authority of P.C. 1955-4/483 dated March 31/55 T.B. 484135.....			96,194.79		96,194.79		
Additional expenditure not classified as to type of vessel.....			1,867.86		1,867.86		
TOTALS.....	329,401.12		933,930.00		604,528.88		184

# WELFARE BRANCH

## Introduction

The most significant welfare development of the year was the offer by the federal government to share with the provinces the cost of Unemployment Assistance. The question was placed on the agenda of the Federal-Provincial Preparatory Conference held in April, 1955; further discussions took place in May and June, following which a draft amendment was sent to the provinces in August. During the October Federal-Provincial Conference some modifications were agreed to and a final form of agreement later was sent to the provinces. Before the end of the fiscal year, five provinces—Newfoundland, Prince Edward Island, New Brunswick, Saskatchewan and British Columbia, had signed agreements which will entitle them to reimbursement once the necessary federal legislation has been passed. With the exception of that with New Brunswick, which is given effect from January 1, 1956, the agreements provide for an effective date of July 1, 1955, for the commencement of federal contributions.

Under the agreements the provinces and municipalities decide their own rates and conditions of assistance. The federal contribution to costs commences only when the case-count of those in receipt of assistance exceeds .45 per cent of the provincial population. In determining the case-count, both employables and unemployables are included but inmates of certain institutions and persons in receipt of certain statutory allowances (e.g., provincial mothers' allowances) are excluded from the claims. This new measure fills one of the remaining gaps in Canada's social security program.

The number of families receiving Family Allowances continued to increase as did the number of children on whose behalf they were paid. The tenth anniversary of the program brought favourable comments as to its effect on child health and welfare in Canada. As was expected, the number of recipients of Old Age Security also increased during the year.

The Blind Persons Act was amended as of June 28, 1955, to lower the eligible age from 21 to 18 and to raise the permissible income ceilings. Beneficiaries at the end of the fiscal year, however, numbered only 108 more than at the same time a year earlier.

Disability allowances came into effect in all ten provinces and the Northwest Territories. At the end of the first full fiscal year of operation there were 26,027 recipients.

The number of applications for old age assistance decreased during the fiscal year and at March 31, 1956 the number of recipients was 1,602 fewer than at March 31, 1955.

The Departmental Consultant on Fitness and Recreation supplied, on request, information on fitness, recreation, physical education, community centres and related subjects. While most of the departmental publications are available on a "for sale" basis from the Queen's Printer, a limited amount of free informational material was provided from the Department. Two departmental publications were revised for publication and distribution on a "for sale" basis, under the titles "Everyday Exercise" and "The Volunteer in Recreation". Consultation and editing services have been made available to the RCAF to assist in the preparation of pamphlets dealing with various sports in the RCAF sports series.

At the request of the Secretary of State, applications from welfare, recreation and sports organizations, for incorporation under the Federal Companies Act, were examined by the Welfare Branch.

The Excise Tax Act was amended in 1950 to provide for the exemption from sales tax of public institutions devoted to the care of children, the infirm, and the aged, if the institutions are certified by the Minister of National Health and Welfare as meeting the requirements of the Act. Fifteen institutions were certified during the fiscal year. This brings the total of institutions certified to 401. During the year, 350 Biennial Questionnaires were sent to institutions already certified, to determine their continued eligibility. As a result of information received from these and other sources the certification of 12 institutions was cancelled.

Research was begun on a study on child welfare reporting and statistics in Canada, which was undertaken at the request of the Canadian Welfare Council and the provincial directors of child welfare. Research work is continuing on legislation and welfare services for older people in Canada. Study was continued on income security problems. Studies for the United Nations have included a report on "Changes and Developments in Child Welfare 1953-55", and a statement on social work education in Canada. Studies released during the year included "Government Expenditures and Related Data on Health and Social Welfare, 1947-53", the English and French editions of the Summary of the Report of the Survey of Welfare Positions, the French editions of the main report of this survey and of the bulletin on Mothers' Allowances Legislation in Canada.

The Welfare Branch continued to make arrangements for the selection of candidates for the Queen Elizabeth Scholarships offered in Canada by the Eliot-Pearson School for Nursery School and Kindergarten Teaching, Tufts College, Medford, Massachusetts.

The Welfare Branch continued to arrange programs for those awarded social welfare fellowships and scholarships by the United Nations for study in Canada. There was one fellowship holder from Iraq and the scholarship holders came from the following countries; Bolivia, China (Taiwan) (2), Pakistan and the Virgin Islands.

The Executive Assistant to the Deputy Minister of Welfare, Mrs. D. B. Sinclair, was the Canadian representative to the United Nations Children's Fund (UNICEF). She attended meetings of the Program Committee and of the Executive Board in New York in September, 1955 and March, 1956. She represented the UNICEF Board at the General Assembly of the WHO in Mexico, in May, 1955.

The main Welfare Branch expenditures were:

	<i>Administration</i>	<i>Net Benefits</i>
Welfare Branch	46,901.88	
Family Allowances)	2,533,393.19	382,535,026.00
Old Age Security)		366,037,582.00
Old Age Assistance )		20,918,186.11
Blind Persons Allowance )	93,367.53	2,918,494.13
Disabled Persons Allowance )		5,665,066.65
Totals	<u>2,673,662.60</u>	<u>\$778,074,354.89</u>

## FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION

The year ended March 31, 1956 saw the tenth anniversary of the payment of Family Allowances in Canada. These allowances were first paid in the month of July, 1945. Since that date, more than \$3,000,000,000 have been paid in Family Allowances. There have been very definite indications of the effect the payment of Family Allowances has had on the health and welfare of Canada's children.



A report received during the past year from the Canadian Tuberculosis Association mentioned a visit made to a rather remote section of one of the provinces. It read in part, "The staff reports a steady improvement in the general health and nutrition, particularly in the children. It would appear that family allowances have made a great contribution to this section."

This year, as in other years, provincial educational authorities commented on the effect of Family Allowances on school attendance. The following extracts from letters or reports received from provincial authorities are illustrations:

"The payment of the family allowance by your Branch upon the condition that each child in respect of whom the payments are made must attend school regularly as required by the School Act (-----) is a highly effective influence with respect to regularity of school attendance in the Province. The payment of the allowances on this condition is a very important factor in bringing about the improved attendance which is reflected in the higher percentages of possible attendance recorded each year."

"On the whole I find that attendance is not the problem that it used to be some years ago. Before the introduction of family allowances the percentage of attendance for ----- was the lowest of all the provinces in Canada, but a great change was brought about in recent years."

Each year, the number of families receiving allowances grows, and thus expenditures increase. Similar growth is evident in the Old Age Security program, which was inaugurated in January, 1952. The past year has been primarily one of such expansion, with no major changes in either program, but with continuing development of policies and procedures. The increase in the number of Family Allowances accounts maintained at March 31, 1956, over that at March 31, 1955, was 68,322, the number growing from 2,208,235 to 2,276,567. In the case of Old Age Security, 779,569 pensioners were receiving payment at the end of 1955-56, as against 752,438 at the end of the previous fiscal year, an increase of 27,131. In neither case was the increase quite so great as in 1954-55 compared with 1953-54.

Certain amendments were made to the Old Age Security Regulations by Order-in-Council P.C. 1955-502 dated April 6, 1955. Perhaps the most interesting of these concerned qualification for the pension on the grounds of residence. Provision was made that, where an applicant was temporarily absent from Canada and was unable to return to Canada due to the dislocation of transportation facilities during or immediately following World War II, he shall be deemed to have continued to reside or to have been present in Canada for the period of absence between the date he made application for transportation to Canada and the date of his actual return. In addition, it was provided that periods of service outside Canada in Canada's armed forces, or those of an ally of Canada, during any war, may be considered as presence in Canada. It has been found that these provisions have been of considerable benefit to a number of applicants for the pension.

### **Staff and Accommodation**

There were 829 employees on the staff of the Division at March 31, 1956. This was a decrease of 7 from the year before. The problem of turn-over in staff remained a considerable one, particularly in the larger and more industrialized centres.

The shortage of professional social workers for the Welfare Sections of Regional Offices became more acute. At the end of the year there were vacancies for one senior social worker and eight junior social workers. It is hoped to make some progress in securing these trained workers, but the prospect is not too bright, in view of the shortage of social workers across Canada.

Accommodation occupied by Regional Offices was reasonably satisfactory, except in the case of the Toronto office, where the situation has become increasingly difficult. There is good reason to hope, however, that a solution to the problem of space in Toronto is near.

### Costs of Administration

The following is a comparison between the costs of administering the Family Allowances and Old Age Security programs in the fiscal years 1954-55 and 1955-56:

	Dept. of National Health & Welfare	Dept. of Finance (Treasury)	Dept. of Public Works	Totals
1954-55—	\$2,519,694.83	\$3,589,436.00	\$217,296.29	\$6,326,427.78
1955-56—	\$2,533,393.19	\$3,600,124.25	\$352,166.82	\$6,485,684.26

Total cost of administering the two programs in the past fiscal year was .86 per cent of the total expenditures of Family Allowances and Old Age Security.

### Welfare Services

The shortage of professional staff mentioned earlier had a severe effect on the work of the Welfare Sections. A total of six Regional Offices have been without one or more social workers during the past year. Under these circumstances, no new welfare projects could be undertaken. Rather, all efforts were bent on keeping abreast of current work.

The relationships established between Regional Offices and institutions and agencies continued to be strengthened. Every effort has been made to have workers of the Division continue their periodic visits to these agencies. One result of the close liaison with child caring agencies is indicated by the increased use being made of Family Allowances paid to these agencies. During the year more than \$2,000,000 in Family Allowances were paid to child caring agencies on behalf of some 44,000 children in their care. The policy of the department has been to encourage these agencies to use Family Allowances currently rather than to permit them to accumulate. Last year agencies spent on the average 98.8 per cent of the Family Allowances received. The department appreciates the co-operation of these busy social agencies in carrying out departmental policy.

In the field of Old Age Security, the Welfare Sections have continued to arrange for trustees to be appointed in cases where the pensioner is no longer able to handle his own affairs. The number of such trusteeships in effect remained about the same as for the previous year.

### Absences from Canada of Recipients

Family Allowances and Old Age Security are not payable on behalf of persons who are outside of Canada, even though their absence may be of a temporary nature. Depending upon the length of such an absence, retroactive payment may be made for all or part of the period of absence on the return of the child or pensioner to Canada. In both cases, Regulations require the reporting of absences from Canada in excess of one month to the Regional Director. The necessity for making these reports is drawn to the attention of recipients of allowances and pensions by letter when these are first paid, and periodically thereafter by means of notices enclosed with cheques.

Generally speaking, recipients of these benefits have made the necessary reports. On occasion, however, those in receipt of Family Allowances or Old Age Security have left Canada without giving the required notice of departure. The Auditor General's

Branch some time ago, in exploring this matter, felt that it would be useful to check ships' manifests available through the Department of Citizenship and Immigration. As a result of a fairly broad check of these records, it was possible to determine the names of a considerable number of recipients who had thus failed to meet their responsibility under the legislation. This checking appeared so useful that it has now been continued wholly by the staff of this Division.

Extracts from the manifests are made concerning arrivals in and departures from Canada of children under sixteen years of age and adults aged seventy or over. The checking of manifests going back over the last few years has been almost completed, and soon this will be done on a current basis. While it has been discovered that some beneficiaries have failed to notify this Division of absences from Canada, because of the short duration of most of these absences, the number of cases in which overpayments actually resulted has been relatively small. Efforts to acquaint recipients with their obligations in regard to reporting of absences have been continued and, in fact, intensified.

## FAMILY ALLOWANCES

### General

The following table shows an increase in the numbers of families and children benefitting from Family Allowances in March, 1956, as compared to the numbers in March, 1955.

	No. of Families	No. of Children	Expenditures
March, 1956	2,263,618	5,377,436	\$32,490,329
March, 1955	2,195,027	5,169,042	31,179,567
Increase	68,591	208,394	\$ 1,310,762

Total net payments for the fiscal year 1955-56 were \$382,535,026, an increase of \$16,069,062 over the preceding fiscal year. Tables 30 and 31 appended hereto give additional details regarding payments of allowances.

### Overpayments

Of the more than \$350,000,000 paid in Family Allowances each year, a small percentage must later be considered as improperly paid. These overpayments are caused by the fact that parents and children may become ineligible for allowances for several reasons and this ineligibility is not discovered by or reported to the Division until after certain payments have been made. Each year, then, there are overpayments, and these are added to those outstanding from all the payments made since the program came into operation. On the other hand, each year collections are made of both current and past overpayments. From year to year, the total of outstanding overpayments tends to become smaller.

At the end of March, 1956, overpayments outstanding totalled \$201,254.45. This compares with a total of \$324,336.54 reported as of March 31, 1955. It might be observed that the total of overpayments established since the beginning of Family Allowances in July, 1945, has been lessened (a) by collections, and (b) by deletions of those amounts considered uncollectable by Treasury Board. The \$201,254.45 represents, therefore, the balance outstanding as of March, 1956, of all these overpayments. Table 32 appended gives a breakdown by category of these outstanding overpayments.

### School Attendance and Employment

As was indicated earlier in this report, all information points to the excellent effect the payment of Family Allowances has had on school attendance. The number of chil-

dren who lost allowances for one month or more during 1955-56, because of not attending school regularly as required by the laws of the various provinces, was 8,664 almost the same number as in the previous year. There is evidence that reporting of such absences by school authorities has continued to improve. Since, in addition, the number of children of school age in Canada continues to increase each year, it is apparent that average school attendance also continues its upward trend.

In 1954-55, there were 16,221 children under sixteen years of age in respect of whom allowances were discontinued for one or more months because they were employed. In 1955-56, the number of these children rose to 19,730. This may reflect the booming economy and the extensive opportunities for employment even for young persons, or it may, in part, reflect more accurate reporting of employment of those under sixteen.

### Indians

The number of active Indian Family Allowances accounts held in Regional Offices at March 31, 1956, was 19,927, a decrease of 856 from the number maintained at the end of March, 1955. This decrease was due to the fact that members of a number of Indian Bands were affected by an amendment to the Family Allowances Regulations made towards the end of the year 1954-55. This amendment provided for dealing with the accounts of the Indians concerned in the same way as with those of other Canadian parents. Regional Offices now deal directly with these Indian parents, instead of through Indian Superintendents, as is done with the bulk of Indian accounts. On the whole, this procedure has worked out very well, though there are some exceptions. It is probable that recommendations will be made to have members of additional Indian Bands included amongst those to whom this procedure is extended.

### Eskimos

There was a slight increase during the year in the number of active Eskimo accounts maintained, from 1,680 at March 31, 1955, to 1,692 at March 31, 1956. Towards the end of the year, an agreement was reached to increase the number of Eskimo parents receiving payment by cheque rather than "in kind." The change will take effect in the first month of the new fiscal year. With the accelerated development of Northern Canada, it is expected that many Eskimos will reach more quickly than was anticipated the stage where they can be considered capable of receiving and expending cash payments of Family Allowances.

## OLD AGE SECURITY

### General

The number of pensioners who received payment of Old Age Security pensions in March, 1956, was 771,753, an increase of 26,133 over the number receiving pensions in March, 1955. Total net payments for March, 1956, were \$30,859,934, an increase of \$1,099,530 over the net payment for March, 1955. Total net payments for the fiscal year 1955-56 were \$366,037,582. Table 33 appended hereto gives more detailed statistics on payments of Old Age Security pensions.

### Overpayments

Overpayments of Old Age Security pension occur generally because of ineligibility for the pension due to comparatively long periods of absence from Canada which may be unreported or late reporting of deaths of pensioners. Usually such overpayments are recovered without too much difficulty. As is the case in Family Allowances, overpayments



which arise each year are added to those which have occurred since the inception of the program. Recoveries are made each year of current and past overpayments. Since January, 1952, when Old Age Security pensions were first paid, payments of more than \$1,450,000,000 have been made. At the end of March, 1956, outstanding overpayments totalled \$41,303.

### **Proof of Age**

Each year, the percentage of applications approved on the basis of Class A evidence of age increases. This was again true in the year 1955-56. Class A evidence, for Old Age Security purposes, consists of birth or baptismal certificates which meet certain standards. Only one item of Class A evidence is required. Where this primary evidence of age is not available, many other types of documents, known as Class B evidence, are given consideration. These include marriage, immigration, medical, military and census records, among others.

Where satisfactory Class A or Class B evidence cannot be obtained, Regional Directors may have recourse to a tribunal to consider the age of an applicant for the pension. Such a tribunal consists of a member appointed by the applicant, a member appointed by the Director and a chairman chosen by the two appointed members. It is a sort of citizens' committee, which conducts an informal hearing, interviewing the applicant and possibly witnesses, and considering what evidence of age or other relevant facts may be available. When an opinion as to the age of an applicant is given by a tribunal, it is binding on the Director, unless rebutting evidence is later obtained. During the past year, 488 tribunals were convened in Canada. In 343 cases, the decision was favourable to the applicant, and in the remaining 145 cases, unfavourable.

### **Indians and Eskimos**

Old Age Security pensions are paid to both Indians and Eskimos on the same basis as to the other residents of Canada. They are paid by cheque directly to these pensioners, except, as is the case with other recipients, when it has been established that a pensioner is incapable of managing his own affairs. While normally this Division may deal directly with Indian and Eskimo applicants for pension, all necessary assistance is given by the Indian Affairs Branch and the Department of Northern Affairs and National Resources.

It is again a pleasure to acknowledge the excellent support and co-operation received from all members of the staff of this Division and from the Chief Treasury Officer and his staff. These have made possible a year of further satisfactory expansion in the administration of Family Allowances and Old Age Security pensions.

TABLE 30  
(Family Allowances and Old Age Security)  
COMPARATIVE STATEMENT OF FAMILY ALLOWANCES PAYMENTS BETWEEN MONTH OF  
MARCH 1955 AND MONTH OF MARCH 1956

PROVINCE	Month of March 1955						Month of March 1956					
	Families Receiving		Children Receiving		Amount Paid		Families Receiving		Children Receiving		Amount Paid	
	Number	Average Allowance per Family	Number	Average Allowance per Child			Number	Average Allowance per Family	Number	Average Allowance per Child		
		\$ c.		\$ c.	\$			\$ c.		\$ c.	\$	
Newfoundland.....	56,602	17.91	169,760	5.98	1,015,309		58,223	18.07	175,474	5.99	1,052,078	
Prince Edward Island.....	13,142	16.54	35,812	6.07	217,348		13,151	16.67	36,144	6.07	219,306	
Nova Scotia.....	97,478	14.84	238,896	6.05	1,446,635		99,071	14.97	244,551	6.07	1,483,479	
New Brunswick.....	76,229	16.68	210,640	6.03	1,271,421		77,079	16.88	214,966	6.05	1,301,302	
Quebec.....	605,916	16.27	1,624,055	6.07	9,860,313		623,961	16.36	1,675,840	6.09	10,207,564	
Ontario.....	744,736	12.68	1,574,703	6.00	9,446,468		773,535	12.87	1,657,561	6.00	9,932,726	
Manitoba.....	119,594	13.26	264,274	6.00	1,586,168		122,018	13.46	272,916	6.02	1,642,399	
Saskatchewan.....	126,424	13.92	290,359	6.06	1,760,280		127,175	14.10	296,027	6.06	1,793,634	
Alberta.....	161,737	13.39	361,551	5.99	2,166,135		167,705	13.57	380,095	5.99	2,275,725	
British Columbia.....	188,471	12.45	388,442	6.04	2,346,398		196,955	12.67	412,819	6.04	2,495,480	
Northwest Territories and Yukon.....	4,608	13.69	10,550	5.98	63,092		4,745	14.04	11,043	6.03	66,636	
NATIONAL.....	2,195,027	14.20	5,169,042	6.03	31,179,567		2,263,618	14.35	5,377,436	6.04	32,490,329	

TABLE 31  
(Family Allowances and Old Age Security)  
NET FAMILY ALLOWANCES PAYMENTS  
(Comparison by Fiscal Years)

PROVINCE	1946-1947		1947-1948		1948-1949		1949-1950		1950-1951	
	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
Newfoundland.....	2,192,044.00		2,256,477.00		2,295,286.00		9,747,030.00		10,224,103.00	
Prince Edward Island.....	13,358,417.07		14,207,957.82		14,515,131.00		2,411,291.00		2,467,257.00	
Nova Scotia.....	11,394,426.02		12,086,891.93		12,462,093.00		15,291,614.07		15,660,003.27	
New Brunswick.....	82,389,966.72		87,157,243.46		89,304,108.45		13,375,434.33		13,708,198.00	
Quebec.....	70,325,914.70		77,328,534.50		80,151,249.69		95,901,763.15		99,558,247.04	
Ontario.....	14,007,061.21		14,798,436.82		15,016,277.72		84,940,808.63		89,034,870.53	
Manitoba.....	18,119,791.87		18,561,329.55		18,327,408.22		15,668,695.50		16,235,519.56	
Saskatchewan.....	17,159,488.00		18,162,501.50		18,695,325.00		18,953,589.79		19,237,070.80	
Alberta.....	15,722,045.50		18,012,188.75		19,347,836.58		19,522,386.97		20,762,273.29	
British Columbia.....	471,376.50		574,470.00		595,063.00		20,813,661.00		21,952,569.36	
Yukon and N.W.T.....							587,749.50		625,348.67	
NATIONAL.....	245,140,531.59		263,165,192.33		270,909,778.66		297,514,033.94		309,465,460.52	

	1951-1952		1952-1953		1953-1954		1954-1955		1955-1956	
	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
Newfoundland.....	10,613,908.00		11,038,874.49		11,497,719.33		11,967,775.00		12,414,789.00	
Prince Edward Island.....	2,495,987.00		2,522,830.00		2,558,097.00		2,590,704.00		2,621,722.00	
Nova Scotia.....	15,949,540.73		16,297,169.95		16,716,374.00		17,147,920.00		17,596,684.40	
New Brunswick.....	13,892,907.00		14,287,535.05		14,700,819.00		15,073,324.00		15,451,544.00	
Quebec.....	102,883,811.56		107,084,124.36		111,441,301.49		116,057,182.00		120,389,837.92	
Ontario.....	93,207,144.30		98,303,868.20		104,409,819.41		110,492,480.00		116,604,314.27	
Manitoba.....	16,703,466.69		17,283,659.61		17,979,853.88		18,705,349.00		19,418,713.24	
Saskatchewan.....	19,424,561.76		19,723,352.42		20,244,540.00		20,894,790.00		21,401,114.00	
Alberta.....	21,573,429.99		22,575,583.60		23,958,080.50		25,390,585.00		26,752,793.00	
British Columbia.....	23,063,642.85		24,399,858.81		25,904,496.28		27,405,872.00		29,097,077.14	
Yukon and N.W.T.....	649,273.15		680,828.30		702,801.30		739,983.00		786,437.15	
NATIONAL.....	320,457,673.03		334,197,684.79		350,113,902.19		366,465,964.00		382,535,026.12	

TABLE 32  
(Family Allowances and Old Age Security)  
OVERPAYMENTS OF FAMILY ALLOWANCES  
March, 1956

(The overpayments may have occurred at any time between July 1, 1945 and March 31, 1956)

PROVINCE	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments Considered Uncollectable		Total Overpayments Outstanding	
	Number of Accounts	Amount \$ c.	Number of Accounts	Amount \$ c.	Number of Accounts	Amount \$ c.	Number of Accounts	Amount \$ c.
Newfoundland.....	57	1,079.00	37	1,320.50	23	462.00	117	2,861.50
Prince Edward Island.....	29	783.00	4	84.00	3	32.00	36	899.00
Nova Scotia.....	86	2,904.00	100	3,717.00	32	578.25	218	7,199.25
New Brunswick.....	32	1,842.00	65	1,285.00	106	5,036.00	203	8,163.00
Quebec.....	497	22,463.39	844	51,903.94	473	35,121.10	1,814	109,488.43
Ontario.....	301	11,679.00	442	13,405.62	315	10,083.16	1,058	35,167.78
Manitoba.....	49	1,691.18	64	1,065.00	39	1,694.00	152	4,450.18
Saskatchewan.....	62	3,432.00	72	2,815.00	41	1,876.30	175	8,123.30
Alberta.....	136	3,724.00	119	3,243.00	49	2,959.50	304	9,926.50
British Columbia.....	104	4,962.00	59	1,626.29	121	4,767.65	284	11,355.94
Yukon and N.W.T.....	26	1,005.00	51	1,823.00	8	791.57	85	3,619.57
NATIONAL.....	1,379	55,564.57	1,857	82,288.35	1,210	63,401.53	4,446*	201,254.45

\*In addition to this amount outstanding, there has been deleted as uncollectable by Treasury Board authority between July, 1945 and March 31, 1956, a gross amount of \$136,394.52.



TABLE 33  
(Family Allowances and Old Age Security)  
STATISTICS ON OLD AGE SECURITY

PROVINCE	Number of Pensioners in Pay March, 1955	Net Payment for March, 1955 only	Number of Pensioners in Pay March, 1956	Net Payment for March, 1956 only	Total Net Payment for Fiscal Year Ended March 31, 1955	Total Net Payment for Fiscal Year Ended March 31, 1956
		\$		\$	\$	\$
Newfoundland.....	15,683	626,282	15,973	637,271	7,459,680	7,597,278
Prince Edward Island.....	6,786	272,250	6,884	275,135	3,261,800	3,313,850
Nova Scotia.....	37,801	1,516,140	38,212	1,532,309	18,149,526	18,402,263
New Brunswick.....	27,014	1,085,756	27,513	1,103,493	12,945,905	13,239,262
Quebec.....	158,109	6,303,599	163,173	6,501,893	74,724,977	77,018,242
Ontario.....	274,680	10,974,305	283,171	11,307,362	130,296,095	134,623,020
Manitoba.....	44,591	1,787,098	46,396	1,854,783	21,051,155	21,945,850
Saskatchewan.....	44,821	1,801,890	47,101	1,893,122	21,202,779	22,323,671
Alberta.....	45,384	1,824,033	48,163	1,933,548	21,418,246	22,670,527
British Columbia.....	90,201	3,547,380	94,611	3,798,116	42,449,810	44,635,293
Yukon and N.W.T.....	540	21,671	556	22,902	245,360	268,326
NATIONAL.....	745,620	29,760,404	771,753	30,859,934	353,205,333	366,037,582

## OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS

### OLD AGE ASSISTANCE

As old age assistance is one of several federal-provincial welfare plans, the federal part in its administration relates mainly to control over federal contributions to the provinces. This in turn involves a measure of control over the administration through the application of the provisions of the federal Act and regulations to decisions of the provincial authorities. The Old Age Assistance Division is responsible for federal administration.

There were no amendments during the fiscal year 1955-56 to the Old Age Assistance Act or to the regulations made under the Act. However, two rather minor changes in one of the sections of the regulations amended in the fiscal year 1954-55 made it necessary for the provinces and the territories to enter into supplemental agreements with the Government of Canada. The main agreements, completed shortly after the Act came into force on January 1, 1952, continued in operation throughout the fiscal year 1955-56, being modified only to the extent of the provisions of the supplemental agreements. The provisions, which were optional with each province, were that the provincial authority could, in calculating income, disregard supplemental allowances or cost-of-living allowances paid by a province to persons receiving disabled persons allowances and, under certain circumstances, the income value determined in accordance with the regulations from an amount up to \$500 of the cash surrender value of life insurance. The first provision would, of course, be applicable only to the spouse of a recipient of old age assistance.

The maximum amount of old age assistance to which the Government of Canada can contribute its share of fifty per cent is \$40 a month and this is the maximum amount paid in all provinces except Newfoundland, which pays \$30 a month. The Yukon Territory and the Northwest Territories pay \$40. The maximum amounts of income allowed are the same in all parts of Canada, \$720 a year in the case of an unmarried person, \$1200 a year in the case of a married person and \$1320 a year in the case of a married person with a blind spouse.

The age at which an applicant may qualify is sixty-five years and the residence requirement is twenty years in Canada immediately preceding the date of the proposed commencement of assistance. In certain circumstances the residence requirement is modified considerably by both the Act and the regulations.

There was little change in either the number of recipients or the federal expenditure as between the fiscal year 1955-56 and the fiscal year 1954-55. As at March 31, 1955, recipients numbered 94,625. As at March 31, 1956, the number was 93,023, a decrease of 1,602. The federal expenditure for 1954-55 was \$20,869,126.09 and for 1955-56 it was \$20,918,186.11 an increase of \$49,060.02. The comparison of the number of recipients is, of course, made at the end of the two fiscal years. With expenditure, the comparison is for the twelve months of both years. The number of recipients increased steadily during 1954-55 and decreased during 1955-56.

With a moderate increase from year to year in the estimated population sixty-five to sixty-nine years of age, it might be assumed that there would be a corresponding increase in the number of recipients. However, old age assistance is temporary, recipients being transferred to the federal administration of old age security on reaching the age of seventy years. So far transfers have shown a tendency to increase in each successive year. In the fiscal year 1955-56, 21,931 recipients were transferred to old age security. The number transferred since the inception of the Act up to March 31, 1956, was 75,140.

Undoubtedly the high level of employment also has an important bearing on the plan. The actual number of applications received by the provinces has been decreasing. This would indicate that fewer persons now find it necessary to request old age assistance than in the past few years.

Old Age Assistance statistics appear in tables at end of this Division's report.

## ALLOWANCES FOR BLIND PERSONS

As allowances for blind persons are paid under a federal-provincial plan the provinces have responsibility for dealing with applications and for the payment of allowances. Federal administration relates mainly to the payment of the federal share to the provinces, which indirectly has a bearing on provincial administration. The medical test for blindness is, however, entirely a federal matter, the Chief of the Blindness Control Division in the Health Branch of this Department being responsible for certifying in each case whether the applicant is blind within the meaning of the Blind Persons Act. The Old Age Assistance Division in the Welfare Branch is responsible for the financial part of federal administration.

The Blind Persons Act was amended as of June 28, 1955, to lower the age at which blind persons become eligible to receive allowances and to increase the maximum amounts of income allowed. The Act, as passed by Parliament in 1951, provided for the granting of allowances to persons who had attained the age of twenty-one years. The amending Act lowered the age to eighteen years. As regards the amounts of maximum income allowed, these were increased from \$840 to \$960 a year in the case of an unmarried person without a child or children, from \$1,040 to \$1,160 a year in the case of an unmarried person with a dependent child or children, from \$1,320 to \$1,560 a year in the case of a married person and from \$1,440 to \$1,680 a year in the case of a married person with a blind spouse.

The amendments to the Act required amendments to the agreements previously made by Canada with the provinces and the territories. For this purpose supplemental agreements were completed. The new agreements also dealt with the two items relating to income referred to in the preceding section, the same changes so far as those items were concerned having been made in the regulations under both the Blind Persons Act and the Old Age Assistance Act.

During the fiscal year the provinces and territories paid allowances for blind persons based on the maximum amount specified in the Blind Persons Act, namely, \$40 a month. The maximum amounts of income allowed were the amounts set forth in the Act although there were slight variations in the dates from which the increased amounts provided by the amending Act of 1955 were applied.

The residence requirement in the Blind Persons Act is ten years in Canada immediately preceding the date of the proposed commencement of the allowance. This general rule is modified in certain cases by added provisions in both the Act and the regulations.

The amendments to the Act in 1955 made it possible for a number of blind persons to qualify for allowances who had formerly been debarred on account of either age or income. However, the number of recipients as of March 31, 1956, showed little change, being 8,230 as compared with 8,122 as at March 31, 1955. There were 318 recipients of blindness allowances transferred to old age security. The number transferred in 1954-55 was 414.

Federal expenditure, which is seventy-five per cent of the total, was slightly higher in 1955-56. For the fiscal year 1954-55 it was \$2,886,184.15 and for 1955-56 it was \$2,918,494.13.

While the number of recipients as at March 31, 1956, was higher than as at March 31, 1955, the number of applications received in 1955-56 was actually less than in 1954-55. However, the percentage of approved cases was substantially higher.

Statistics relating to Blind Persons' Allowances are given in tables at end of this Division's report.

### ALLOWANCES FOR DISABLED PERSONS

While the Disabled Persons Act came into operation in the fiscal year 1954-55, the great majority of the original applications for allowances under the Act were considered by the provincial authorities within the fiscal year 1955-56. As at March 31, 1955, there were 7,166 recipients, most of these being persons transferred from a provincial plan previously in operation for some time in the Province of Ontario. As at March 31, 1956, there were 26,027 recipients. Federal expenditure for the fiscal year 1955-56 was \$5,665,066.65. The cost of disabled persons allowances is divided equally between the federal government and the provinces.

The agreements with the ten provinces continued in operation throughout the fiscal year 1955-56. Early in 1956 an agreement was completed between Canada and the Northwest Territories. This agreement, like others, specifies a maximum allowance of \$40 a month payable at the age of 18 years and the maximum amounts of income allowed as set forth in the federal Act. These are \$720 a year in the case of an unmarried person, \$1,200 a year in the case of a married person and \$1,320 a year in the case of a married person with a blind spouse. The residence requirement is 10 years in Canada prior to the date of the proposed commencement of the allowance. This period may be modified by other provisions in the Act and the regulations.

It is too early, as yet, to estimate the extent to which transfers to old age security will affect the number of recipients of disabled persons allowances. As the number in 1955-56 was only 14, it seems unlikely that, for some time at least, the number of recipients under the Disabled Persons Act will be reduced significantly by such transfers.

While the provinces have the responsibility of administering allowances for disabled persons, federal authorities take part in administering the medical features of the plan. The procedure generally followed is that the medical evidence for each applicant is considered by medical officers representing both the province and the federal government. The federal administration is divided between The Medical Rehabilitation and Disability Advisory Service Division in the Health Branch of this Department and the Old Age Assistance Division in the Welfare Branch. The former is responsible for the medical part of the plan and the latter for the financial part.

Disabled Person's Allowances statistics are included in Tables at the end of this Division's report.

### OLD AGE PENSIONS

Operations under the Old Age Pensions Act ceased as of December 31, 1951 and the Act was repealed on March 31, 1954. However, in each fiscal year since ordinary operations under the Act ceased there have been a few minor transactions. Additional expenditure has, for the most part, been in connection with uncashed cheques. The provinces have been receiving refunds and crediting the federal government with its share. During the fiscal year 1955-56, additional expenditure amounted to \$694.94 and the federal share of refunds received by the provinces amounted to \$11,081.65. There was, therefore, a reduction during 1955-56 of \$10,386.71 in the total expenditure from the inception of the Act.

As at March 31, 1956, federal payments from the inception of the Old Age Pensions Act for pensions other than those for blind persons amounted to \$810,916,509.93. Federal payments, including pensions for blind persons, amounted to \$836,844,964.68.



The amounts paid by the Government of Canada during the fiscal year 1955-56 for old age assistance and for allowances for blind persons and disabled persons, with relevant statistical information, will be found in tables 34 to 36, which follow.

TABLE 34  
(Old Age Assistance)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES  
For The Fiscal Year 1955-1956

PROVINCE	Number of Recipients	Average Monthly Assistance	Federal Payments 1955-1956
	Mar. 31, 1956	Mar. 1956	
Alberta.....	5,521	\$36.16	\$ 1,240,451.68
British Columbia.....	7,441	37.68	1,788,308.64
Manitoba.....	4,652	37.84	1,111,603.66
New Brunswick.....	5,891	36.86	1,303,188.68
Newfoundland.....	4,848	29.42	877,212.91
Nova Scotia.....	5,081	33.73	1,046,927.35
Ontario.....	21,731	36.90	4,918,977.94
Prince Edward Island.....	600	27.69	99,659.66
Quebec.....	32,227	37.51	7,357,373.13
Saskatchewan.....	4,925	37.05	1,150,402.27
Northwest Territories.....	86	37.93	21,000.19
Yukon Territory.....	20	40.00	3,080.00
Total.....	93,023	.....	20,918,186.11

TABLE 35  
(Blind Persons' Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES  
For The Fiscal Year 1955-1956

PROVINCE	Number of Recipients	Average Monthly Allowance	Federal Payments 1955-1956
	Mar. 31, 1956	Mar. 1956	
Alberta.....	415	\$38.54	\$ 145,706.99
British Columbia.....	475	39.52	166,771.68
Manitoba.....	411	39.60	145,547.11
New Brunswick.....	717	39.50	258,432.17
Newfoundland.....	353	39.65	126,037.93
Nova Scotia.....	726	39.55	254,603.63
Ontario.....	1,719	39.35	609,974.15
Prince Edward Island.....	96	37.52	32,279.27
Quebec.....	2,905	39.44	1,036,242.60
Saskatchewan.....	389	38.84	135,218.60
Northwest Territories.....	18	40.00	6,330.00
Yukon Territory.....	6	40.00	1,350.00
Total.....	8,230	.....	\$2,918,494.13

TABLE 36

(Disabled Persons' Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE DISABLED PERSONS ACT, BY PROVINCES

For The Fiscal Year 1955-1956

PROVINCE	Number of Recipients	Average Monthly Allowance	Federal Payments 1955-1956
	Mar. 31, 1956	Mar. 1956	
Alberta.....	1,150	\$38.01	\$ 290,947.36
British Columbia.....	705	39.00	115,520.91
Manitoba.....	738	39.00	172,349.71
New Brunswick.....	947	39.13	218,643.94
Newfoundland.....	606	39.08	119,325.53
Nova Scotia.....	1,172	34.86	254,325.87
Ontario.....	7,501	39.24	1,712,425.98
Prince Edward Island.....	292	32.84	56,702.54
Quebec.....	12,128	38.81	2,561,940.99
Saskatchewan.....	788	38.20	162,883.82
TOTAL.....	26,027	.....	\$5,665,066.65

# CIVIL DEFENCE

## General

The function of Civil Defence is to minimize the effects of disaster upon the population of Canada and upon the property of the Canadian people; to take measures to reduce loss of life, and to provide medical, welfare and other assistance to the civilian population. To carry out a program of such magnitude requires the strength and resources of the entire nation and necessitates a division of responsibility between federal, provincial and municipal governments.

Civil Defence, in its very essence, is the assurance of the maintenance of normal community services and for this reason the main operational responsibility, apart from overall plans, training and coordination, must fall on those local municipal agencies who carry the day-to-day responsibilities of maintaining the normal amenities of life in Canada's urban communities.

Since Civil Defence must centre on local organization and action, the role of the federal government is largely that of a guiding, directing and co-ordinating agency whose job it is to ensure that adequate planning and organization is maintained on provincial and local levels, that key personnel and instructors are trained in the various specialized fields, and that sufficient supplies of key materials and equipment, required exclusively for civil defence purposes, are made available on the operational level.

To this end, federal civil defence authorities continued to press forward during the fiscal year 1955-56. The tempo of training key civil defence instructors and others was stepped up. The Financial Assistance Program was implemented to a greater degree than heretofore. All Services continued to develop organizational, functional and operational plans essential in the event of a national disaster. Continued assistance was given to provinces and communities in establishing their Civil Defence Welfare and Health Services organizations. Considerable progress was made during the year with respect to warning and communications services and to evacuation planning.

## Compensation Agreements

British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick and Newfoundland have now signed Compensation Agreements with the federal government permitting compensation to be made for injury or death, while in training, to enrolled civil defence workers, on a 50-50 basis.

## Financial Assistance Program

As of the 31 March, 1956, all provinces with the exception of Quebec and Prince Edward Island, were participating with the federal government in the Civil Defence Financial Assistance Program. Of the \$2,000,000 provided for assistance to provinces for civil defence purposes, \$757,824.03 was committed and actual payments to provinces and municipalities totalled \$646,865.23. Quotas, commitments and payments, by provinces, are tabulated below.

TABLE 37  
(Civil Defence Division)

## FEDERAL CIVIL DEFENCE FINANCIAL ASSISTANCE PROGRAM

PROVINCE	Quota	Commitment	Payment
British Columbia.....	187,271.78	187,271.65	187,271.65
Alberta.....	118,921.86	120,195.44	118,030.98
Saskatchewan.....	91,490.08	51,682.00	39,356.49
Manitoba.....	117,285.72	59,355.77	37,126.81
Ontario.....	692,035.92	238,172.58	190,776.47
Quebec.....	603,375.16		
New Brunswick.....	63,777.00	30,587.50	12,758.67
Nova Scotia.....	92,128.19	39,559.09	30,780.53
Prince Edward Island.....	10,827.19		
Newfoundland.....	45,863.17	31,000.00	30,763.63

Under the terms of this program the federal government agrees to contribute 25 per cent of the cost of certain classifications of municipal civil defence expenditures, submitted and approved on a project basis, irrespective of whether the provincial government also makes a contribution. If the provincial government makes a contribution, the federal government, in addition, matches the provincial contribution dollar for dollar up to a maximum contribution of 50 per cent. For expenditures on approved projects which also have a peacetime use, the federal government agrees to match the provincial contribution dollar for dollar.

### Hose Coupling Standardization Program

The federal government committed itself by federal-provincial agreement to meet one-third of the cost of standardization of hose couplings in British Columbia, Alberta and Ontario, with the federal share of the program to be as follows:

Ontario.....	\$367,000
British Columbia.....	82,000
Alberta.....	60,000

The programs in Ontario and Alberta have now been completed. It is anticipated that the British Columbia program will be completed in the forthcoming fiscal year. The offer remains open to other provinces desiring to participate.

### Information Services

During the year a start was made on a new series of civil defence posters and a series of training charts for the various civil defence services. Preliminary writing, editing and production was also begun on several civil defence leaflets including "What is Civil Defence", "Civil Defence and your Life", "Survival in a H-Bomb War". Eight programs in the field of radio were produced and distributed to 104 stations across Canada and a news-clip on evacuation was completed and distributed to 280 theatres. Through the co-operation of Alberta Civil Defence and the City of Calgary Civil Defence organization, a documentary film on "Operation Lifesaver" was made. Distribution of this film is scheduled for the summer of 1956. Scripting and research was undertaken for three additional civil defence films entitled "The H-Bomb and You", "Civil Defence and Natural Disaster" and "The Canadian Civil Defence College". Training items, such as films, maps and charts were produced for civil defence purposes and a most successful newsmen's conference was held at the Civil Defence College. This conference was attended by top-flight newsmen from all informational fields and a second and larger conference along similar lines is to be held within the next year.



During the summer of 1955-56 considerable attention was given to the prevention of home fires, resulting in an increased demand for the civil defence manual "Fires in the Home".

Liaison continued with provincial and municipal civil defence organizations and with the United States Federal Civil Defence Administration during the year.

## Planning

A Planning Section was authorized on the 1 April, 1955 to assist as required, provincial and major Canadian target area Civil Defence authorities in the development and rehearsal of evacuation plans for the rapid dispersal and subsequent reception and care of the population of areas threatened by thermonuclear attacks; and in conjunction with other service and section heads at Federal Civil Defence Headquarters to assist in the development of federal civil defence plans. Three members of this section were engaged during the year under review and the nucleus of the section was well established.

An active part was taken by this section in the evacuation exercise "Lifesaver" held in Calgary during September and assistance was provided to the Alberta provincial staff in the collating of umpire reports and the preparation of the initial report on "Operation Lifesaver" for the information of provincial and federal civil defence authorities.

Preliminary discussions were held in British Columbia with the provincial and the Vancouver Target Area Co-ordinators concerning evacuation planning problems with respect to the City of Vancouver.

## Transportation

Continuing activities were maintained in analysing the civil defence national transportation requirements and the availability of existing transportation of all forms, viz., highway, railway, marine and air, to meet anticipated emergency requirements.

The Federal Civil Defence Transportation Committee, under the chairmanship of Commissioner Chase of the Board of Transport Commissioners for Canada, continued to function in an advisory capacity.

In addition, close liaison was maintained with the United States Federal Civil Defence Transportation Section, which resulted in the exchange of information and knowledge of mutual interest and benefit.

## Warning and Communications

The civil defence early warning network which was established in previous years, was maintained and subjected to monthly tests. This warning system enables warnings to be sent from Air Defence Control Centres by direct line to main key points, from where they are advanced to selected key points by priority toll calls.

Several provinces prepared plans for provincial radio networks which will be used in peacetime for training and exercises and also will be available for use in an emergency.

## Welfare

The Civil Defence Welfare Section continued in its development of an operable plan which will act as a guide for the efficient provision of emergency welfare services in Canadian disasters, either in peace or war. Working committees were organized to consider the principles of proposed programs, the preparation of educational material, and planning and assisting welfare training courses.

Courses pertaining to General Welfare, Emergency Feeding, Emergency Clothing, Emergency Lodging, Registration and Inquiry, were given at the federal Civil Defence College for provincial and municipal civil defence officials and welfare workers.

A careful study of Civil Defence Welfare Services in Great Britain and the United States was undertaken, and visits made to the two countries in an effort to obtain as much information and material as possible.

Registration and Inquiry forms were revised and work done on the development of the contents of Survival and Evacuation packs.

The change in planning emphasis caused by the advent of thermonuclear weapons was reflected in the addition of three staff members during the year.

The importance of planning in reception areas was recognized by the participation of staff in the evacuation exercises in Bangor, Maine; the provincial Civil Defence Study forum held in Kamloops, British Columbia and in the detailed planning in reception areas of Alberta during the Exercise "Lifesaver".

### **Liaison**

The Liaison Section was authorized on the 1st April, 1955, to maintain direct liaison with provincial civil defence authorities on all matters and with direct emphasis on the Federal Financial Assistance Program and related planning and on provincial and municipal training.

Working from federal Civil Defence headquarters, Liaison officers are responsible for encouraging Provincial Co-ordinators to make use of the specialized knowledge and information available at civil defence headquarters and for arranging conferences between provincial and federal headquarters sections as required. A number of visits have taken place on the above basis with most satisfactory results.

### **Civil Defence Health Services**

The basic function of Civil Defence Health Services did not change during the year but particular emphasis was placed on the development and implementation of those changes in the concepts of Civil Defence Health Services planning arising out of the development of higher yield atomic weapons. The changes referred to were more procedural and geographic than basic, and did not require the abandonment of established training, organization or supply programs.

The stockpiling of essential medical supplies for Civil Defence continued and substantial progress was made in the development of new phases of the supply program including mobile improvised hospitals, emergency supply cupboards for hospitals and supplies for medical units in welfare assembly areas. Considerable progress was made also in the development of plans respecting the public health problems arising out of mass evacuation, including sewage disposal and water supply and purification.

Indoctrination courses were held at the Civil Defence College for physicians, nurses, dentists and pharmacists, with special emphasis placed on instruction beneficial to them in the supporting roles they would be called upon to play, under conditions of atomic, biological and chemical warfare, in the overall Civil Defence organization. By the end of the fiscal year, the total number of physicians indoctrinated through federally-sponsored courses, was approximately 400.

Federal Civil Defence Health Services authorities assisted Canadian Schools of Nursing and Schools of Pharmacy in the further development of civil defence training for undergraduate nurses and pharmacists. Work was continued also during the year

towards a comprehensive survey and assessment of nursing aide, home nursing and other paramedical personnel in Canada.

Federally sponsored Hospital Disaster Institutes were conducted in Montreal for French-speaking staffs of some 35 hospitals in the Province of Quebec and in Toronto, for a similar number of hospitals in the Southern Ontario area. By the end of the year, through this means, the administrators and other chief officers of approximately 150 Canadian hospitals had received information enabling the compilation of practical and functional hospital plans. This represents about two-thirds of the acute hospital beds in Canada.

Casualty simulation, as a training technique for health services personnel, was given considerable impetus not only through the continuation of regular courses at the Canadian Civil Defence College in the art of such simulation but, as well, through the publication of a manual illustrating, in full colour, the method of achieving medical authenticity in simulation. The manual was received both in Canada and abroad as a substantial Canadian contribution.

During the year Civil Defence Health Services collaborated with the St. John Ambulance Association in the publication of a new illustrated text on First Aid technique. This manual will serve not only as the official St. John Ambulance Association instructional text but as the basis for the teaching of First Aid for Civil Defence.

### **Special Weapons**

A parent working party, designed to advise on the implementation of defence policies against special weapons, was established and met for the first time in January, 1956. To sub-committees of this working party, whose membership is drawn from the National Research Council, the Defence Research Board, the Canadian Armed Services, United States Civil Defence, United States Armed Services, Canadian Universities and the Royal Military College, specific questions are referred dealing with numerous aspects of the problems involved; simplifications of defence procedures are being evolved and recommendations for the practical application of principles are being obtained. The Special Weapons Section of Civil Defence Health Services was able, during the year, to furnish accurate information from time to time to professional, university and technical bodies on the subject of special weapons defence, particularly the medical aspects of the problem.

### **Civil Service Civil Defence (Ottawa)**

During the year, 600 federal Civil Service personnel received basic training in the following civil defence skills—Home Nursing, First Aid, Rescue and Firefighting, and 110 persons, previously uninstructed in any phase of Civil Defence attended a series of indoctrination lectures. Special advanced courses in Rescue and Firefighting, aimed at qualifying team members as leaders and instructors, were held and many basically-trained First Aiders came forward for promotion tests during the year.

A number of senior personnel assisted in international exercises, thereby acquiring most desirable experience and a total of 80 qualified First Aiders took part in demonstrations held at Civil Defence College under the auspices of the Civil Defence Health Services.

Emergency evacuation drills were held in the majority of federal government buildings throughout the Ottawa area, implementing the Order-in-Council P.C. 1955-23/1450 dated 28 September 1955, which assigned to the Civil Defence Division of this department the responsibility for the organization and maintenance of Fire Warden Service and evacuation practice drills in premises owned or occupied by the Government of Canada in the Ottawa area.

Numerically, the period 1955-56 commenced with a total of 3,583 persons registered with Civil Service Civil Defence. Of this total, 2,353 were actively engaged in Civil Defence teams throughout the buildings in Greater Ottawa, with 1,230 being carried on reserve status. During the year, 610 persons enrolled in Civil Service Civil Defence while 369 dropped out mainly due to the normal exigencies of the service-retirement, departmental re-organization and changes in employment location.

As of the 31 March, 1956, Civil Service Civil Defence had a total membership of 3,804 trained or partially-trained personnel.

### **Training**

The tempo of training key personnel was again stepped up during the year under review with 63 regular courses and 15 special forums at the Canadian Civil Defence College, where a total of 2,134 persons received special civil defence training. In addition, the services of the Joint Atomic Biological and Chemical Warfare School at Camp Borden were utilized to a considerable degree for the training of Civil Defence workers in these fields. Certain carefully selected provincial and federal officials attended courses conducted by the Federal Civil Defence Administration of the United States and the Civil Defence Staff College in the United Kingdom. The total number of personnel trained to date under federal auspices as of the 31 March, 1956, was 8,100.

An international exercise, "Alert II", involving all of the provinces was conducted in conjunction with the United States Civil Defence authorities. Operational procedures were developed as a result of this and other exercises and were passed to the provinces in the form of courses or written instructions.

All of the provinces are co-operating in the civil defence training program, although the status of organization varies considerably from province to province. A total of 203,936 persons were enrolled in the Civil Defence movement as of the 31 March, 1956. Of these, 77,963 are full-time provincial and civic employees, such as fire, police, utilities and civil defence personnel, and 125,973 are part-time civilian volunteers. Of the total number enrolled, 121,967 have taken civil defence training.

It is interesting to note a large increase in Department of National Defence personnel attendance at Canadian Civil Defence College courses. In 1954, 74 members of the Services attended Civil Defence training courses, while during 1955, 207 Officers and Non-Commissioned Officers attended courses.

### **Civil Defence College**

The Canadian Civil Defence College was established in April late in 1953. The College's main functions are to train key civil defence personnel in the development of civil defence plans and techniques; to train instructors for local civil defence authorities; and to conduct research in proposed civil defence equipment and operational procedures.

In the field of research, the Canadian Civil Defence College has developed a new method for the carrying of rescue equipment beyond the limits of vehicle travel. Basically, the device used is the packboard. This project has shown such promise that NATO has become very interested. In conjunction with Defence Research Board officials, the College has participated in the testing of shelters against radioactive fallout. The College is frequently called upon to test types of equipment to determine their suitability for civil defence use.

On the 20 February, 1956, His Excellency the Governor-General visited the College to unveil signed photographs of Her Majesty Queen Elizabeth and His Royal Highness the Duke of Edinburgh.



## ADMINISTRATION BRANCH

The third branch of the Department—Administration—is composed of the Departmental Secretary's Division, Information Services Division, Legal Division, Departmental Library, Personnel Division, Purchasing and Supply Division, and the Research and Statistics Division. As all these divisions serve the entire department, both across Canada and overseas, the further development of departmental activities in many fields during the past year continued to make increasing demands upon them.

### DEPARTMENTAL SECRETARY'S DIVISION

The activities of the Departmental Secretary's Division continued to fall into two broad classes—those which the Departmental Secretary carried out personally and those which were undertaken largely by the staff of the division.

Included among the first group are (a) acting as financial adviser to the Department in respect of many aspects of its work; (b) assisting the Minister and the Deputy Ministers in the long and complicated procedure related to the preparation and approval of the departmental estimates from the time they were first drafted until they were approved by Parliament; (c) acting as the Deputy Ministers' substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfers between allotments, submissions to Council and to Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament; and (e) carrying out many special projects which were assigned from time to time.

The second group of responsibilities were borne by the various Sections of the division as follows:

The *Registry Services* carried out many phases of the work relating to the custody and circulation of the department's official records. This involved the operation of a central registry and eight sub-registries in Ottawa, and the provision of advice, assistance and a certain degree of supervision in respect of records in many departmental establishments across Canada. Good progress was made during the year on the complete reorganization and standardization of the filing system and relating procedures for the entire Indian and Northern Health Services. New or completely revised file series were also created for a number of other divisions. In January the sub-registries serving the Food and Drug Directorate and the Division of Narcotic Control were moved to the new Food and Drug Building and reorganized as one sub-registry. The records retirement program continued to be aggressively pursued, resulting in considerable savings in space, equipment and staff time. Mail, messenger and truck services at Head Office continued to be provided by this section.

The *Accounts and Estimates Section* continued to assist in providing financial advisory assistance to the Department and in relieving Directors and Chiefs of the burden of maintaining accounting records and of routine administrative duties related to financial matters. This section also carried out much of the detail involved in the preparation of departmental estimates and continued to act as liaison between the Department and the Treasury Office serving it.

The work of the *Parliamentary Papers and Correspondence Section* consisted largely of preparing replies to the many thousands of letters and enquiries which were received on a wide range of health and welfare subjects. This section was also responsible for processing, distributing, and recording all submissions, Orders in Council, Treasury Board Minutes, Supplementary Lists, Treasury Board Circular Letters, and other docu-

ments, and for the daily reading of all parliamentary papers and the excerpting, distributing, and indexing of items of interest to this department.

In the *Duplicating Section* almost 17,000,000 duplicating impressions were produced, with the many related operations representing a correspondingly heavy workload. Particular attention was given in the past year to the maintenance of the departmental Addressograph lists which totalled approximately 200,000 names. This resulted in a more complete and informative classification of a number of section of the lists.

A central source of typing assistance was again provided to the entire department in Ottawa by the *Secretarial Services*. As well, all typing and mat work required in the preparation of material for reproduction in the Duplicating Section was done by the Secretarial Services. Varytper facilities continued to be available.

In addition the Departmental Secretary's office acted as an information centre for the entire department and carried out numerous special projects which normally are the responsibility of the secretariat of a large organization.

### INFORMATION SERVICES DIVISION

The Division carried out an extensive program in its three main fields: public information, health education and public relations. In all its operations, its work was made possible by the co-operation of departmental officials and provincial officers and by its Distribution Section and its Biological Photographic Laboratory. The Distribution Section distributed 10,195,900 pieces of literature and 890,000 periodicals and answered 27,000 individual requests. The Biological Photographic Laboratory installed new equipment which improved the quality of copy work, slides and overlays for scientific and technical use and effected an increase in production and a great saving in materials.

Editorial and related services were extended to the whole department. A great deal of miscellaneous material, such as maps, cheque inserts, charts, pictorials and displays, was prepared for many divisions. Civil Defence, in particular, required considerable effort in providing training aids and graphics.

#### Public Information

The Departmental magazine, "Canada's Health and Welfare" was produced regularly and two supplements—on mental health and on the work of the Occupational Health Division—were published. "F.Y.I."—a periodical with news for those interested in health education—was also produced regularly.

"Here's Health", the Division's series of ten-minute dramatic presentations, continued to be used by more than 100 stations as it has been, uninterruptedly, for seven years. For the 17th consecutive year National Health Notes, radio flashes and the monthly Radio Letter were prepared and sent out to all radio stations.

Press fillers were prepared and sent to all English and French daily newspapers and "Canada's Health", a column, went to weeklies.

Four sets of slides, complete with commentary, were prepared for television and the first was aired at the end of the year. C.B.C. showed interest in these slides and they are expected to become an important medium. In addition, several of the Department's films were shown and discussed on TV, and considerable T.V. coverage of the work of the Department was given in news and feature telecasts. Excellent relations with the radio field continued to provide good co-operation.

The work of getting films for possible inclusion in the National Film Libraries was carried on. A number of films were seen, evaluated, purchased and sent out on block bookings to the Provinces. A catalogue of Welfare films was produced and the large catalogue of Health films was almost completed at the end of the year.

## Health Education

Although no federal-provincial health educators conference was held this year, advantage was taken of every opportunity to discuss mutual problems with provincial health educators and close liaison was maintained with them.

A distribution policy was finally agreed upon with members of the Treasury Board whereby the Department may distribute free all the publications it prints, but must limit its production of "Canadian Mother and Child", "Up the Years", "The Backward Child" and "Dental Health Manual" to roughly 75 per cent of a five-year average.

In addition to a large volume of reprinting for all divisions, the following new health education materials were produced:

*Films:* "From Ten to Twelve", "Operation Lifesaver", Newsclips on Evacuation and on Women in Civil Defence, and the beginning of a film on malocclusion. *Filmstrips:* "Before Baby's Birth Day" and "Caring for Baby" (to replace the now obsolete "Nine to Get Ready" and "Introducing Baby"); "Feeding Habits" and two strips on "Sex"; "An Indian in Hospital", "An Eskimo in Hospital".

*Publications:* "Before Baby's Born", "Education for Expectant Parents" (a manual for nurses giving prenatal classes), "Rheumatic Fever in Children", "Crooked Teeth—Crooked Faces"; "Mental Retardation"; "Opportunities for Registered Nurses in the Mental Health Field"; "Opportunities for Social Workers in the Mental Health Field"; "Parent Education"; "Sleeping Habits"; and "Quackery".

*Posters:* Various posters were developed for the Mental Health, Occupational Health and Family Allowances Divisions.

*Exhibits:* A number of exhibits were produced for use at various conferences and institutes.

## Public Relations

An unusually large number of journalists, writers and broadcasters turned to Information Services for assistance, particularly in regard to the Salk vaccine program. In addition a number of public health and information officials from many countries came to the Division for briefing. The usual courses were held for nurses from the Universities of Ottawa and McGill, and the New Brunswick health educator spent a week with this division.

Members of the Division represented the Department at exhibits at the British Medical—Canadian Medical Association convention, at the National Council of Social Work, the Canadian Council of Social Work, the Canadian Dental Association, the Canadian Public Health Association, the U.S. Public Health Association, the Canadian Highway Safety Conference, the Home Show and the Canadian Nurses Association. They also attended meetings of the Interdepartmental Committee on Publications, the Joint Planning Commission, the Conference of French Weeklies, the Newsmen's Course at Amprior, Ont., and other conferences, and handled public relations at two disaster planning institutes, "Operation Lifesaver" in Calgary, while they assisted in program planning for a cooperative industrial health unit in Kitchener and a community preparedness program at Belleville.

## LEGAL DIVISION

The Legal Division provides professional legal, as well as administrative, services to the entire department in matters within departmental responsibility and concern. These services include the furnishing of legal advice and opinions, the preparation of contracts, agreements and other legal documents, the interpretation of statutes and regulations within departmental administration, advising on prosecutions thereunder, including the Food and Drugs Act, the Opium and Narcotic Drug Act, the Family Allow-



ances Act and the Old Age Security Act. Involved in the above is liaison with other Departments and agencies of government, including the Royal Canadian Mounted Police in matters relative to the Opium and Narcotic Drug Act and the Food and Drugs Act.

During the past year the Legal Division provided assistance to the Special Committee of the Senate on the Traffic in Narcotic Drugs in Canada and the Legal Adviser acted as a technical adviser to the Committee. The Division was responsible for the revision and consolidation of certain of the regulations enacted under departmental legislation, the drafting and revision of legislation for submission to the Department of Justice and the preparation of submissions and recommendations to the Governor in Council and the Treasury Board.

The Legal Division, through the Legal Adviser, provided consultative legal services to a number of voluntary health agencies and organizations, including the National Cancer Institute of Canada, the Canadian Association of Radiologists, the Canadian Association of Radiological Technicians and the newly formed Canadian Heart Foundation. The Legal Adviser and other legal officers of the Division represented the Department in investigations and on various boards concerned with administrative and policy matters in which the Department has some interest or responsibility.

The staff of the Legal Division provided necessary and related secretarial and clerical services, including the collection of Family Allowances overpayments.

### DEPARTMENTAL LIBRARY

The Departmental Library continued the selection, acquisition and organization of reference and technical books, serials, pamphlets and government documents on all subjects related to the department's work for collections in Ottawa and field establishments.

Cataloguing of all collections was carried on in the Main Library where a master-catalogue by author, title and subject of all holdings was kept up to date. Additional finished catalogue records were supplied to other establishments and the National Library's Union Catalogue. The cataloguing staff also compiled or edited bibliographies and indexes as required.

In April 1955 the responsibility of the Department of Public Printing and Stationery for the purchasing of books was transferred to Departments and the National Library. In co-operation with the Purchasing and Supply Division, much time was given to setting up a system of ordering in the Library and to some selection of suppliers. During the year investigation was made of the requirement and cost of authors' reprints ordered by the Department.

In January the branch library for the Food and Drug Directorate was moved to the new Food and Drug building at Tunney's Pasture. The second floor of the centre wing of the building is designed for library use and supplied with new equipment and furniture. Space in the basement of this building has been arranged to serve as storage for older scientific publications for all the department's laboratories in the Tunney's Pasture area, thus releasing the other library storage space for other publications.

Surplus publications which accumulate are used for exchange purposes or for donations. During the past year shipments of scientific journals were sent to the Korean Commission for UNESCO and to the Department of External Affairs for presentation to medical libraries in Ceylon.

### PERSONNEL DIVISION

The Personnel Division served all directorates and divisions of the department in the areas of personnel management and organization.



Difficulty in recruiting and retaining professional and technical staff continued. This reduced considerably the stability which is so essential to the department in carrying out its most effective work. In consultation with the Civil Service Commission the Personnel Division is exploring all the possibilities of solving this problem.

The Personnel Division represented the department in the examination of staff estimates on the Establishment Review Committee under the new procedure approved by the government. It is expected that this new procedure, when developed, will allow more flexibility in day-to-day personnel administration within the department and may assist in overcoming some of the past difficulties.

In general, reasonable progress was made during the past year in strengthening the organization of the department.

Tables 38, 39 and 40, following, contain statistics relating to the staff situation for 1955-56.

TABLE 38  
(Personnel Division)  
STAFF STRENGTH, BY DIVISION  
At March 31, 1955 and March 31, 1956

DIVISION	Strength, March 31, 1955		Strength, March 31, 1956	
	Full Time	Part Time	Full Time	Part Time
Minister's Office.....	18	.....	19	.....
Departmental Secretary.....	128	.....	128	.....
Information Services.....	26	.....	25	.....
Legal.....	6	.....	7	.....
Library.....	16	.....	12	1
Personnel.....	39	.....	38	.....
Purchasing and Supply.....	22	.....	24	.....
Research and Statistics.....	38	.....	37	.....
Health Administration.....	15	.....	17	.....
Medical Rehab. and Disability Adv.....	.....	.....	4	.....
Blindness Control.....	4	.....	4	.....
Child and Maternal Health.....	7	.....	4	.....
Civil Aviation Medicine.....	5	7	6	7
Civil Service Health.....	78	.....	75	.....
Dental Health.....	6	.....	5	.....
Epidemiology.....	17	.....	11	.....
Food and Drug.....	217	.....	212	.....
Health Insurance and Health Grants.....	22	.....	19	.....
Hospital Design.....	4	.....	3	.....
Occupational Health.....	41	.....	52	.....
Laboratory of Hygiene.....	96	.....	96	.....
Mental Health.....	8	.....	5	1
Nutrition.....	20	.....	19	.....
Narcotic Control.....	29	.....	29	.....
Proprietary or Patent Medicine.....	6	.....	8	.....
Public Health Engineering.....	33	1	29	1
Quarantine, Imm. Medical, etc.....	389	18	383	18
Indian Health Services.....	1,409	57	1,580	61
Welfare Administration.....	3	.....	5	.....
Physical Fitness.....	6	.....	.....	.....
Social Aid Division.....	15	.....	19	.....
Family Allowances and Old Age Security.....	839	.....	844	.....
Civil Defence.....	127	.....	152	.....
Northern Health Services.....	.....	.....	11	.....
	3,689	83	3,882	89

TABLE 39  
(Personnel Division)  
GEOGRAPHICAL DISTRIBUTION OF STAFF  
As at March 31, 1956

	Welfare Branch including Civil Defence	Directorate of Indian Health Services	Health Branch	Administration Branch	Total
Ottawa.....	89	35	443	291	858
Northwest Territories.....		26			26
British Columbia.....	67	481	60		608
Alberta.....	56	333	5		394
Saskatchewan.....	55	167	3		225
Manitoba.....	48	182	18		340
Ontario.....	355	385	38		686
Quebec.....	217	23	223		463
New Brunswick.....	40	8	16		64
Nova Scotia.....	53	11	70		134
Prince Edward Island.....	10	1	1		12
Newfoundland.....	30	9	122		39
Overseas.....					122
Total.....	1,020	1,652	1,008	291	3,971

TABLE 40  
 CHANGES OF FULL TIME STAFF WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES  
 (Personnel Division)

Classification	Number of authorized positions March 31, 1956	Number appointed during the fiscal year	Number transferred or promoted during the fiscal year	Number terminated during the fiscal year	Number of vacant positions March 31, 1956	Approximate number of terminations per 100 employees
Physicians.....	293	19	11	26	32	8
Dentists.....	14	6	1	6	4	
Registered Nurses.....	436	174	33	145	52	33
Chemists.....	92	6	7	6	10	6
Bacteriologists.....	19	1		2	2	
Pharmacists.....	5	2				
Laboratory Technicians.....	98	1		7	7	
Nutritionists.....	9					
X-Ray Operators.....	34	9	3	14	16	
Food and Drug Inspectors.....	41	7	5		11	
Public Health Engineers.....	26	1	2	3		
Social Workers.....	30	2		7	10	
Information Officers.....	9	4	3	5	1	
All other classes.....	3,262	843	190	756	252	23
Total.....	4,368	1,075	255	977	397	22

## PURCHASING AND SUPPLY DIVISION

The Purchasing and Supply Division continued to meet the departmental requirements for materials, equipment, supplies, accommodation, printing and stationery, telephones, and other public utility services. This included contracting for and procuring scientific, technical and medical equipment for hospitals, laboratories, health units, clinics, the Civil Defence College, and Quarantine and Immigration stations. It involved shipments to the Northwest Territories, Eastern and Western Arctic, United Kingdom and Continental Europe by boat, rail, air, snowmobile, and tractor train.

The new Food and Drug Building was erected at Tunney's Pasture during the year, necessitating the purchase by this division of a great deal of additional technical and scientific equipment to accommodate the expanding program of that directorate.

This division continued to consolidate inventory and a more extensive program of control in this field is being carried out. New standards and specifications are continually being implemented.

Approximately 13,500 requisitions were processed embracing almost every commodity and involving orders placed with manufacturers and suppliers in all parts of Canada and the United States and with other federal departments.

The division continued to operate and expand departmental stores in Ottawa, and over 5,600 shipments were made from there during the year.

## RESEARCH AND STATISTICS DIVISION

The Research and Statistics Division carries on a program of analysis and evaluation of basic information on health and welfare matters, with special reference to their social and economic aspects and to questions of methodology. It prepares reports and generally acts in an advisory capacity to senior officers of the department as required. It works in close co-operation with other divisions and maintains liaison with agencies in Canada and abroad engaged in work of social or economic interest to the department.

During the year the division maintained an intensive research program to assist federal-provincial planning and discussions in the field of health insurance and carried out various studies in the fields of medical and hospital care, health and health services, rehabilitation of the disabled, disability pensions, manpower problems, welfare and income security.

Major projects commenced during the year included study of the general problems raised by the effects of ionizing radiation, in co-operation with the Occupational Health Division, Atomic Energy of Canada, Limited, and the Bureau of Statistics. A comprehensive study of government expenditures on health and welfare services in Canada was carried out and the bulletin *Government Expenditures and Related Data on Health and Social Welfare 1947 to 1953* was published, as well as bulletins on particular aspects of health and welfare subjects.

Assistance was given to the Department of Labour in the presentation of Canada's views at the 38th Session of the International Labour Organization in Geneva in June 1955 which the Director attended as a Canadian government advisor. The head of the Biostatistics Section represented the Department at the International Conference on Radiation Genetics Research. The Canadian position paper on the use of Leisure Time in Canada was prepared by the division, in consultation with the Consultant on Physical Fitness, for the International Conference on Social Work held in Munich in 1956.



## Health Care

The work in health insurance which has been carried on in the division for a number of years was extended after the preliminary federal-provincial conference on fiscal matters in April 1955, when it was agreed that health and welfare services would be included in the agenda for the second conference to be held in October. At the request of the July conference of Deputy Ministers of Health an extensive series of preliminary statistical and financial data were provided for each province, to assist in the preparation of provincial cost estimates for hospital and laboratory and radiological diagnostic services.

Cost estimates were prepared for the January 1956 meeting of the Committee of Health and Finance Ministers, established at the October Conference, when the federal government announced its offer to share costs of a program of hospital care and laboratory and radiological diagnostic services. The Director of the Division testified before the Conference on cost estimates and, together with other research officers of the division, acted in an advisory capacity during its meetings.

Background information prepared for the Federal-Provincial Conference in October included a number of bulletins. *Selected Public Hospital and Medical Care Plans in Canada* described the operations of the British Columbia Hospital Insurance Service, the Alberta Municipal Hospitals Program and Maternity Hospitalization Plan, the Saskatchewan Hospital Service Scheme, the Newfoundland Cottage Hospital Program, the medical-dental care program in the Swift Current Health Region of Saskatchewan and the municipal doctor arrangements in Manitoba and Saskatchewan. *Voluntary Medical and Hospital Insurance in Canada* dealt with the operations of private insurance companies, of Trans-Canada Medical Plans and of the Canadian Council of Blue Cross and other selected non-profit plans, in terms of coverage, benefits offered by different types of contracts, and administrative and financial procedures. To supplement this publication, which was based on 1953 data, questionnaires were prepared and circulated to the different plans in March 1955 to request information on 1954. The replies were summarized in a short series of supplementary tables, which have been made available for general distribution.

In addition two documents were prepared to present data on the cost of health services to Canadians, and trends in expenditures on health and welfare services over a period of seven years. In *Health Care in Canada: Expenditures and Sources of Revenue, 1953* an estimate was made of how much Canadians spent for different items of health care in that year, and from what sources funds were derived to pay for services.

The Bulletins *Government Expenditures and Related Data on Health and Social Welfare, Hospitals in Canada and Tuberculosis Services in Canada*, described elsewhere in this Report, were designed to give the Conference additional data on subjects closely related to those under discussion.

The Division continued its co-operation with the Bureau of Statistics in analysis of data collected in the Canadian Sickness Survey. During the year the bulletins *Incidence and Prevalence of Illness* and *Volume of Health Care for Selected Income Groups* were published.

At the request of the Newfoundland Department of Public Health the head of the Health Care Section of the division spent some time in that province analyzing data on the operation of the Cottage Hospital Program. Certain hospitals and diagnostic centres in Manitoba were also visited to obtain data relating to the provision of laboratory and radiological diagnostic services. Visits to the Maritime Provinces and Manitoba were made to discuss questions relating to hospital bed facilities and per diem costs.

Information on the financing of health services and the extent of provision through insurance against the costs of illness in Canada was supplied to foreign embassies, international organizations, members of parliament, university staff members, labour dispute arbitrators, representatives of employers and unions, and other agencies and persons. At the request of the Chairman of the National Joint Council, information was secured from each province on the extent of government premium-sharing in health care plans for public employees. The Division maintained an active interest in the proceedings of the Canadian Medical Care Conference and a member of the Division participated in a panel discussion on the Canadian Sickness Survey, at the second Canadian Medical Care Conference in Edmonton in September 1955.

## Health Problems

The head of the Biostatistics Section represented the division on the technical committee established by the department to consider the general problem of the effects of ionizing radiation. As a member of the genetics sub-committee, he drafted a sub-committee report and material relevant to the development of research work in Canada. The head of the section also attended, as an observer for the department, the international conference on radiation genetics research, held at the Atomic Energy Research Establishment at Harwell, England, in September 1955, and subsequently visited the Ministry of Health and Registrar General in London and Southport, England, the World Health Organization in Geneva and the Danish National Health Service and Cancer Registry in Copenhagen, with a particular view to study of the development and integration of statistical services.

Association with the Epidemiology and Occupational Health Divisions was continued in the conduct of the Windsor-Detroit Air Pollution Health Study. During the year the field work in connection with the health study was completed and assistance was given to evaluation of the accuracy of the methodology. Further analysis of the survey results on the Canadian side was carried out in preparation of the final report to the International Joint Commission Technical Advisory Board on Air Pollution. The head of the Biostatistics Section participated in the first meeting of the new departmental Technical Committee on Air Pollution, which considered plans for further atmospheric pollution studies.

The Division continued its study of health statistics published by the Dominion Bureau of Statistics and other agencies; tabulations and source reference material were provided in a number of instances for department use and in response to queries from non-government sources; most enquiries received were for data on heart disease, cancer, tuberculosis and accidents; other topics included multiple sclerosis, epilepsy, barbiturate deaths and suicides. Comparison of health conditions between different regions of Canada and between Canada and other countries was also frequently requested. At the request of the National Film Board, material and technical advice was provided for a film on accident hazards in childhood.

## Health Methods

The Division prepared comments on a W.H.O. Memorandum respecting the health component of a level of living index, and on proposed revisions to the Regulations for the International Statistical Classification of Diseases, Injuries and Causes of Death.

Assistance was provided to other divisions of the department on such problems as the design of a questionnaire for, and the carrying out of summary tabulations of, data on back injuries in industry for the Occupational Health Division; the planning of a blindness-nutrition survey in New Brunswick; selection of sample size and recording procedures in a physical fitness test calibration project; and the tabulation of data or

response to an exhibition of educational materials produced by the Information Services Division of the department.

The Division also provided a consultative statistical service, including sample size estimates and advice on the feasibility of alternative plans for various projects. Assistance was given to the Epidemiology Division in the preliminary planning for a BCG evaluation study, an investigation of the relationship between lung cancer incidence and possible etiologic factors including smoking, and a study of accidents involving school children. Some advice was given in connection with an evaluation of polio vaccine experience in Canada in the past year, and was also given to a number of divisions in their advisory capacity under the National Health Program, on projects such as replacement procedures in sampling in a neonatal mortality investigation, techniques for analysis of cerebral palsy study data and respecting research or statistical units in provincial health departments.

Assistance was also given to a number of divisions, including the Health Grants Administration, Indian Health Services and the Disability Allowances authorities in the development of record systems; this has included the preparation of record cards and reporting forms and advice respecting practical and useful tabulations of recorded data.

### Health Services

Additional sections of *Canada's Health Services*, a report describing in detail the public and voluntary health services and resources available to Canadians, were completed during the year. Although work pressures prevented this comprehensive report being published when planned it is hoped that its publication will be possible in the near future.

Of the two major bulletins on health services published during the year, *Hospitals in Canada* contained a detailed study of active treatment and chronic hospitals in the post-war years and included analyses of bed facilities, personnel, bed utilization and finances, as well as of bed requirements. *Tuberculosis Services in Canada* described voluntary and government programs of case finding, treatment and rehabilitation in all provinces.

A comprehensive review of data on the Sick Mariners Service was prepared for the departmental committee reviewing this program.

A special study of hospital bed standards and requirements, on which estimates of hospital accommodation required might be based for the next twenty-five years, was drawn up for the Royal Commission on Canada's Economic Prospects. A comprehensive report covering the major aspects of health planning in Canada was prepared for the World Health Organization for presentation at its ninth Assembly in April 1956, and the division continued to keep the World Health Organization informed on changes in health legislation in Canada.

An historical analysis of Canadian narcotic legislation was commenced, a number of short studies were carried out on different aspects of narcotic control enforcement and some documentation was prepared as background material for the Senate Committee on the Traffic in Narcotics in Canada.

An extensive report on Occupational Health Services in Industry, based on data collected in the April 1954 Survey of Labour Conditions conducted by the Department of Labour, was prepared for the Occupational Health Division for publication as a bulletin. In the study an analysis was made of the number of establishments and employees provided with services and of physicians and nurses employed.

## Dental Health

In its continued collaboration with the Dental Health Division in fluoridation studies, the division completed an analysis of the latest series of dental examinations and assisted in drafting the 1955 report on the dental effects of water fluoridation. Collaboration was also extended to the Dental Health Division in the preparation of a paper on the overall results of fluoridation projects from 1948 to 1955, for publication in the Canadian Dental Association Journal. The analysis of dental examinations related to stannous fluoride evaluation was completed and a report incorporated in a paper presented by the Dental Health Division at the 1955 Annual Meeting of the Canadian Public Health Association. The Division also assisted in the planning of future projects to be carried out by the Dental Health Division.

## Health Manpower

A report, *Specialists in Canada, June 1954*, was published as a supplement to *Survey of Physicians in Canada*, and statistical information on health personnel, including data on armed forces reserve medical officers, industrial health physicians and on nurses, was provided to the Defence Medical and Dental Services Advisory Board.

At the request of the Civil Defence Health Planning Group the Division undertook the preparation of a manual on the conduct of nursing surveys and provided field direction in the analysis of the results of the Nova Scotia Nursing Inventory for which the previous year's Manitoba Survey, reported on in *Survey of Nursing Personnel in Manitoba*, was used as a model. Co-operation was continued with the Department of Labour in assessment of health manpower problems.

Basic statistics on trends in the supply and distribution of doctors, dentists, and nurses were made available to the Royal Commission on Canada's Economic Prospects and comprehensive data on public health personnel in Canada were supplied to the Pan-American Sanitary Bureau.

The Director of the division assisted the Director of Health Services in advising the College of General Practice on its Survey of General Practice and some suggestions regarding sample size and survey procedures were made.

## Rehabilitation

Aid was given to the Department of Labour in preparation of Canada's views on the Recommendation on the Rehabilitation of Disabled Persons adopted by the International Labour Organization at its 38th Session. The Division continued to assist the National Advisory Committee on the Rehabilitation of Disabled Persons and the Director acted as the Departmental Representative at the annual meeting held in Quebec in 1955. Studies of rehabilitation and chronic illness services were extended and special statements on rehabilitation services and services for the aged were prepared for the World Health Organization as well as reports for departmental use.

## Disability Statistics

A marginal punch card system was established for the analyses by age, sex, and disability of medical characteristics of applicants for disability allowances whose cases had been reviewed by medical review boards in the provinces, to make data available for study on persons accepted, rejected for medical reasons, referred for rehabilitation or on whom decision was deferred. In January 1956 an analysis of the first 15,000 accepted cases, together with rejected cases in selected provinces, was completed for a conference of Review Board members called by the department.



## Child and Family Welfare

Progress was made in the planning and initial development of the long-term study of child welfare reporting and statistics in Canada. Undertaken at the request of the Canadian Welfare Council, this project is designed to encourage comparability in the use of basic definitions and in the substance and method of reporting. Meetings were held with representatives of the Canadian Welfare Council and the Bureau of Statistics and with provincial directors of child welfare in a number of provinces. A staff member visited the United States Children's Bureau and conferred with child welfare officers there. A number of preliminary memoranda for discussion with the Advisory Committee on Child Welfare Reporting and Statistics of the Canadian Welfare Council were in course of preparation at the end of the year. These set out common factors and variations in present reporting and examined the concepts and definition on which provincial child welfare reporting now rests.

Preparatory work was also underway on *Changes and Developments in Family and Child Welfare, 1953-55*, one of the periodic reports undertaken at the request of the United Nations. Draft chapters of the bulletin *Deserted Wives and Children's Maintenance Legislation* were sent to provincial departments of welfare for review. A first draft of a study of provincial legislation on the adoption of children in Canada was nearing completion at the end of the year.

Special memoranda on family and child welfare included reference data on orphanhood in Canada, the reception and maintenance of repatriated children, the adoption of children by Canadians living outside Canada, surrender provisions of provincial adoption laws and the length of stay of emotionally-disturbed children in selected institutions. Bibliographical material was also prepared as requested on a number of occasions.

The Division was represented on an advisory committee to plan a research project on trends in institutional care for children as reflected in the one hundred years service of the Sunnyside Children's Centre, Kingston. At the request of the committee, a review was prepared of a twenty year period in the early history of the institution, with special attention to the impact of provincial grant and supervision on its progress and policy.

Consultative services were provided on several projects. These included consideration of the factors to be examined in the selection of a sample and the preparation of a questionnaire for a study to determine need for child and family welfare services in a metropolitan area. Consultative services were also given on projects concerned with the protection of special groups of children and the simplified assessment of clients' fees in a homemaker's agency.

## Welfare Services for Older Persons

Trends in the development of services for older people in Canada and, to some extent, in other countries, were kept under review, which included study of changes in legislation and patterns of service as well as of demographic data. Material prepared in the field of aging dealt with federal measures to assist in providing accommodation for older people, retirement and the employment of older professional workers, and geriatric programs in Canada. A review of research and other studies on behalf of older persons was prepared as background material for a radio series on aging. Progress was made on a bulletin on federal and provincial legislation on living accommodation for the older person, with special reference to principles and standards established and the distribution of administrative and financial responsibility.

Advisory services were made available to local committees on aging on such subjects as significant factors to be studied in surveying the needs of older people in Can-

adian cities, with special reference to problems of sampling, and the content and form of the interview schedule, and on a proposed television film on the care of the older person.

The Division was represented on, and prepared documentation for, the Committee on Aging of the Canadian Welfare Council, the Interdepartmental Committee on the Older Worker and the Committee on Aging of the American Public Welfare Association. Work undertaken in connection with these committees has included the study and revision of committee documents; the preparation of background material dealing, among other things, with statistical data, demographic trends and survey methods; and participation in writing committee reports. A member of the division attended the Eighth Annual Conference on Aging at the University of Michigan.

### Community Services

Study of community services continued, with review of programs for special groups and problems of financing voluntary services. The Director served on the National Executive Committee of the Chests and Councils Division of the Canadian Welfare Council, and the head of the Welfare Section acted as departmental representative on the Council's National Committee on the Welfare of Immigrants.

### Manpower in Welfare Services

Study was continued of the problem of securing personnel for welfare services. The head of the Welfare Section participated in planning for the one-day conference on "Staffing our Social Agencies" held as part of the Annual Meeting of the Canadian Welfare Council and the Director presented an analysis of basic data on the shortage of qualified social workers in Canada. The *Summary of the Survey of Welfare Positions*, including some additional data, was prepared for use as the source document at the conference. The head of the Welfare Section took an active part in the work of the Standing Committee on Personnel of the Canadian Welfare Council in its consideration of problems arising out of the shortage of social workers, with particular reference to in-service training, and in the preparation of a report to the National Workshop on Social Work Education. A French edition of the *Report of the Survey of Welfare Positions* was published.

A memorandum on the training of welfare personnel and on the advisability of a third international survey of social work training in Canada was prepared at the request of the United Nations. As a member of the Research Commission of the United States Council on Social Work Education, the Director was concerned with problems of training and with research on curricula of schools of social work and other studies undertaken by the Commission.

### Other Welfare Services

Certain background material was prepared in connection with the proposed program of federal aid for unemployment assistance. The Division co-operated with the Department of Labour in a number of projects concerning industrial pension plans and assistance was given to that department in the presentation of Canada's views on matters concerning the welfare of workers at the 38th Annual Session of the International Labour Organization. Consultations were held on some preliminary aspects of the nation-wide study of married women in employment conducted by the Women's Bureau of the Department of Labour. Projects were suggested for individual and group research suitable for candidates for higher degrees in social work and to indicate areas of need where research might be undertaken with community support. A report on departmental activities was prepared for inclusion in the Canadian Welfare Council bulletin on

"Developments in Public Welfare, 1954-55", published during the year. The head of the Welfare Section represented the division on the Editorial Board of "Canadian Welfare".

### Miscellaneous

Sections of the Canada Year Book and other official publications dealing with health, welfare and social security were prepared by the division as in other years. Articles were written for "Canada's Health and Welfare" on Child Welfare Progress in Britain, on Day Care Centres, Homemakers, and Boarding Home Programs for the Aged in New York City. The New National Sickness Insurance Program in Sweden, The Swedish Program for Control of Alcoholism, The Long-Term Patient in the United States, Intergovernmental Problems in the United States, Welfare Facilities for Workers and the Rehabilitation Resolution adopted by ILO, Social Insurance in Austria, and other subjects. Pamphlet and book reviews were prepared on current professional literature, and assistance continued to be provided to agencies and persons in the preparation of reports for publication related to the work of the department.

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# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

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*Executive Assistant*, George M. Carty, B.A.

*Private Secretary*, D. G. Emerson

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Deputy Minister of National Health and Welfare (Health)

G. D. W. Cameron, M.D., C.M., D.P.H., LL.D.

Deputy Minister of National Health and Welfare (Welfare)

G. F. Davidson, B.A., M.A., Ph.D., LL.D.

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Public Health Engineering Division, *Chief*, J. R. Menzies, B.A.Sc., O.L.S., C.E.

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*Consultant, Fitness and Recreation*, Doris W. Plewes, M.A., B.Paed., Ed.D.**FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION—National Director,**

R. B. Curry B.A., LL.B.

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 Birks Building, Sparks Street  
 Booth Building Sparks Street  
 Garland Building, Queen Street  
 No. 3 Temporary Building, Wellington Street  
 Trafalgar Building, Queen Street  
 Daly Building, Mackenzie Avenue

**CIVIL DEFENCE COLLEGE**

ARNPRIOR, Ont.—P.O. Box 2050

**FAMILY ALLOWANCES AND OLD AGE SECURITY**

ST. JOHN'S, Nfld.	29 Buckmasters' Field
CHARLOTTETOWN, P.E.I.	59 Queen Street
HALIFAX, N.S.	Industrial Building
FREDERICTON, N.B.	Federal Building
QUEBEC, Que.	51 Boulevard des Capucins
TORONTO, Ont.	122 Front Street West
WINNIPEG, Man.	138 Portage Ave. East
REGINA, Sask.	Dominion Government Building
EDMONTON, Alta.	10182 103rd Street
VICTORIA, B.C.	Federal Building

**FOOD AND DRUG LABORATORIES**

OTTAWA, Ont.	Tunney's Pasture
HALIFAX, N.S.	Dominion Public Building
MONTREAL, Que.	379 Common Street
TORONTO, Ont.	27-39 St. Clair Ave. East
WINNIPEG, Man.	Aragon Building
VANCOUVER, B.C.	Federal Building

**FOOD AND DRUG OFFICES**

OTTAWA, Ont.	Tunney's Pasture
HALIFAX, N.S.	Dominion Public Building
CHARLOTTETOWN, P.E.I.	100 Fitzroy Street
SAINT JOHN, N.B.	250 Prince William Street
SYDNEY, N.S.	Naval Administration Building
ST. JOHN'S, Nfld.	T.A. & B. Society Building
QUEBEC, Que.	375 Dorchester Street
THREE RIVERS, Que.	Post Office Building
SHERBROOKE, Que.	315 King Street West
MONTREAL, Que.	379 Common Street
TORONTO, Ont.	27 St. Clair Ave. East
BELLEVILLE, Ont.	12 Bridge Street East
HAMILTON, Ont.	Federal Building



KITCHENER, Ont.	Dominion Public Building
LONDON, Ont.	Dominion Public Building
WINDSOR, Ont.	Dominion Public Building
SUDBURY, Ont.	Federal Building
PORT ARTHUR, Ont.	33 Court Street South
WINNIPEG, Man.	Aragon Building
SASKATOON, Sask.	219-22nd Street East
REGINA, Sask.	Federal Building
CALGARY, Alta.	Customs Building
EDMONTON, Alta.	Post Office Building
KAMLOOPS, B.C.	345 Victoria Street
VANCOUVER, B.C.	Federal Building
VICTORIA, B.C.	805 Government Street

## IMMIGRATION MEDICAL SERVICE OFFICES

### Canada

GANDER Nfld.	Gander Airport
HALIFAX, N.S.	Immigration Building, Pier 21
MONCTON, N.B.	Moncton Airport
MONTREAL, Que.	379 Common Street and Dorval Airport
QUEBEC, Que.	Immigration Hospital, Quebec-West
SAINT JOHN, N.B.	Pier 9, Immigration Building
ST. JOHN'S, Nfld.	Marshall Building, Water Street, P.O. E5109
STEPHENVILLE, Nfld.	Harmon Field Airport
TORONTO, Ont.	737 Church Street and Malton Airport
VANCOUVER, B.C.	Immigration Building, foot of Burrard St. and Sea Island Airport
VICTORIA, B.C.	Immigration Building
WINDSOR, Ont.	Windsor Airport
WINNIPEG, Man.	Winnipeg Airport

### Overseas

LONDON, England	61 Green Street, Mayfair, W.1
BELFAST, Northern Ireland	65 Chichester Street
GLASGOW, Scotland	18 Woodlands Terrace, C.3
LIVERPOOL, England	34 Moorfields, Liverpool 1
BRUSSELS, Belgium	230 rue Royale
PARIS, France	38 Avenue de l'Opéra
ROME, Italy	Via Nimorense, 90
THE HAGUE, Holland	12 Carelvan Bijlandtlaan
COPENHAGEN, Denmark	Vestagervej 5
KARLSRUHE, Germany	Canadian Government Immigration Mission, 11 Redtenbacherstrasse
HANOVER, Germany	10 Kirchroederstrasse
BERLIN, Germany	Canadian Government Immigration Mission, Berlin-Zehlendorf, Berliner Str. 25
MUNICH, Germany	Canadian Government Immigration Mission, Funk Kaserne, Block 1, Freimann- strasse 218, Meunchen-Freimann

HAMBURG, Germany .....	Canadian Government Immigration Mission, Admiraltaetstrasse, 46
VIENNA, Austria .....	Canadian Legation Visa Section, Tuchlau- ben 8, Vienna
ATHENS, Greece.....	18 Anagnostopoulou St. Kolonaki

### SICK MARINERS CLINICS AND HOSPITALS

HALIFAX, N.S. ....	Immigration Building, Pier 21
SYDNEY, N.S. ....	Marine Hospital
SAINT JOHN, N.B. ....	Pier 9
QUEBEC, Que. ....	Louise Basin
MONTREAL, Que. ....	379 Common Street
VANCOUVER, B.C. ....	Immigration Building

### QUARANTINE STATIONS AND SUB-STATIONS

HALIFAX, N.S. ....	Pier 21 and Rockhead Hospital
SAINT JOHN, N.B. ....	Pier 9 and Quarantine Hospital, Lancaster, N.B.
QUEBEC, Que. ....	Louise Basin and Quarantine Hospital, Quebec-West
MONTREAL, Que. ....	379 Common Street and Dorval Airport
VANCOUVER, B.C. ....	Immigration Building and Sea Island Airport
VICTORIA, B.C. ....	William Head, B.C.
GANDER, Nfld. ....	Gander Airport
THREE RIVERS, Que. ....	Sub-stations under direction of Quarantine Officer in Charge of Quebec. There is a Quarantine Officer appointed in each port.
SOREL, Que. ....	
RIMOUSKI, Que. ....	
PORT ALFRED, Que. ....	
SEVEN ISLANDS, Que. ....	

### LABORATORIES OF HYGIENE

OTTAWA, Ont. ....	45 Spencer Street and Tunney's Pasture
-------------------	--

### OCCUPATIONAL HEALTH LABORATORIES

OTTAWA, Ont. ....	200 Kent Street Health Radiation Laboratory, Laurentian Building
-------------------	--

### PUBLIC HEALTH ENGINEERING DISTRICT OFFICES

TRURO, N.S. ....	515 Prince Street
MONCTON, N.B. ....	Post Office Building
MONTREAL, Que. ....	379 Common Street
ST. CATHARINES, Ont. ....	4th Floor, Dominion Building
PORT ARTHUR, Ont. ....	Post Office Building
WINNIPEG, Man. ....	Scientific Building, 425½ Portage Avenue
REGINA, Sask. ....	Federal Building
EDMONTON, Alta. ....	Post Office Building
VANCOUVER, B.C. ....	Begg Building, 110 West Georgia Street

## INDIAN AND NORTHERN HEALTH SERVICES FACILITIES

(Numbers correspond to locations as per map appended)

## ADMINISTRATIVE OFFICES

1	Head Office	102	Halifax
181	North Bay	130	Quebec City

## NURSE-DISPENSER

291	Coral Harbour	508	Hanceville
510	Creekside	168	Long Lac
440	Fort Providence	137	Lorette
557	Fort St. James	419	Lower Post

## NURSING STATIONS

290	Baker Lake (P)	105	Lake Harbour
133	Bersimis	204	Lansdowne House
207	Big Trout Lake	287	Little Grand Rapids (P)
441	Cambridge Bay (P)	286	Little Saskatchewan
106	Cape Dorset	191	Manitowaning
431	Coppermine	360	Mistawassiss (Leask).
235	Cross Lake	257	Nelson House
413	Driftpile	334	Onion Lake
110	Eskasoni	205	Osnaburgh
358	Fort a la Corne	234	Oxford House
107	Fort Chimo	410	Peigan (Brocket)
184	Fort George	359	Pelican Narrows
434	Fort Good Hope	209	Pikangikum
435	Fort McPherson	185	Port Harrison
433	Fort Norman	258	Pukatawagan (P)
104	Frobisher Bay	183	Rupert's House
233	God's Lake Narrows	208	Sandy Lake
408	Goodfish Lake	407	Saddle Lake
414	Hay Lake	259	Split Lake
231	Island Lake	232	St. Therese's Pt.
356	Lac La Ronge	412	Stony (Morley)
206	Lac Seul	119	Tobique

## HOSPITALS

427	Blackfoot (Gleichen)	328	Fort Qu'Appelle
428	Blood (Cardston)	426	Hobbema
295	Brandon	179	Lady Willingdon
400	Charles Camsell	579	Miller Bay
279	Clearwater Lake	198	Moose Factory
528	Coqualeetza	553	Nanaimo
297	Dynevour	353	North Battleford
298	Fisher River	253	Norway House
296	Fort Alexander	228	Sioux Lookout

## CLINICS

139	Caughnawaga	428	Blood (Cardston)
157	Deseronto	400	Edmonton
531	Duncan	296	Fort Alexander
437	Fort Smith	328	Fort Qu'Appelle
558	Hazelton	426	Hobbema
505	Kamloops	191	Manitowaning
357	Prince Albert	579	Miller Bay
160	Sarnia	198	Moose Factory
109	Sydney	353	North Battleford
256	The Pas	179	Ohsweken
500	Vancouver	528	Sardis
103	Pangnirtung	253	Norway House
292	Chesterfield	228	Sioux Lookout

## HEALTH CENTRES

436	Aklavik	135	Mistassini (Seas.)
532	Alert Bay	159	Muncey
144	Amos	136	Obedjiwan
116	Big Cove	148	Oka
304	Broadview	163	Parry Sound
411	Calgary	158	Peterborough
422	Carmacks (Seas.)	134	Pointe Bleue (Roberval)
187	Chapleau	284	Portage la Prairie
108	Chatham (P)	211	Port Arthur
260	Churchill (P)	560	Fort Simpson
162	Chippewa Hills	306	Punnichy
164	Christian Island	141	Rapid Lake (Seas.)
409	Fort Chipewyan	147	Restigouche
213	Fort Frances	131	Romaine (Seas.)
439	Fort Rae	285	Sandy Bay
438	Fort Resolution	190	Sault Ste. Marie
423	Fort St. John	132	Sept Iles
432	Fort Simpson	111	Shubenacadie
559	Greenville	406	St. Paul
415	High Prairie	171	St. Regis
303	Kamsack	188	Sturgeon Falls
212	Kenora	420	Teslin (Seas.)
118	Kingsclear	143	Timiskaming
113	Lennox Island	533	Tofino
509	Lillooet	556	Vanderhoof
142	Maniwaki	504	Vernon
138	Manowan	161	Walpole Island
562	Masset	145	Waswanipi (Seas.)
333	Meadow Lake	307	White Bear Lake
506	Merritt	421	Whitehorse
146	Mingan (Seas.)	507	Williams Lake

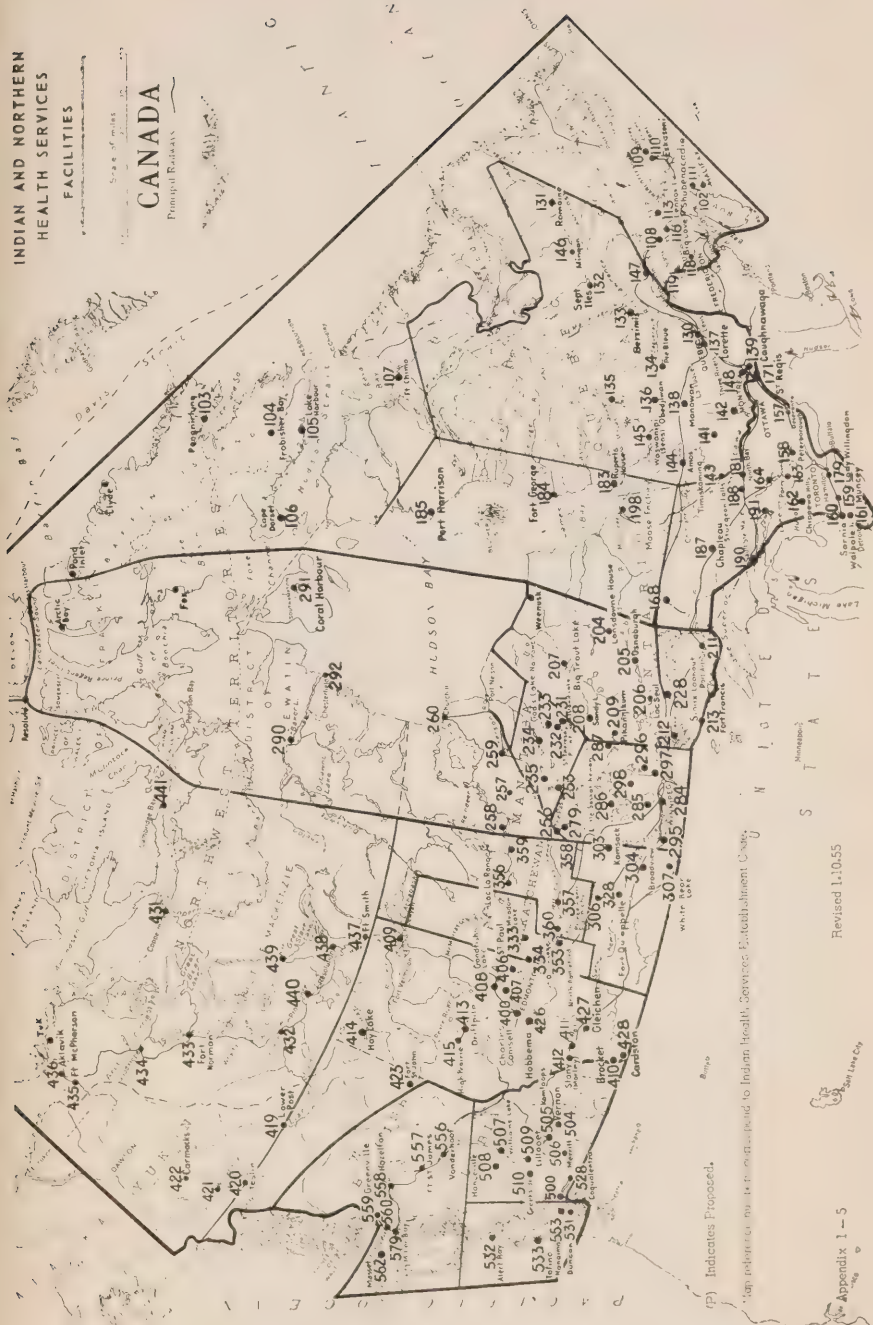


# INDIAN AND NORTHERN HEALTH SERVICES FACILITIES

CANADA

Principal Reserves

Scale of miles



(p) Indicates Proposed.

Map prepared by the Department of Indian Health Services, Establishment Group.

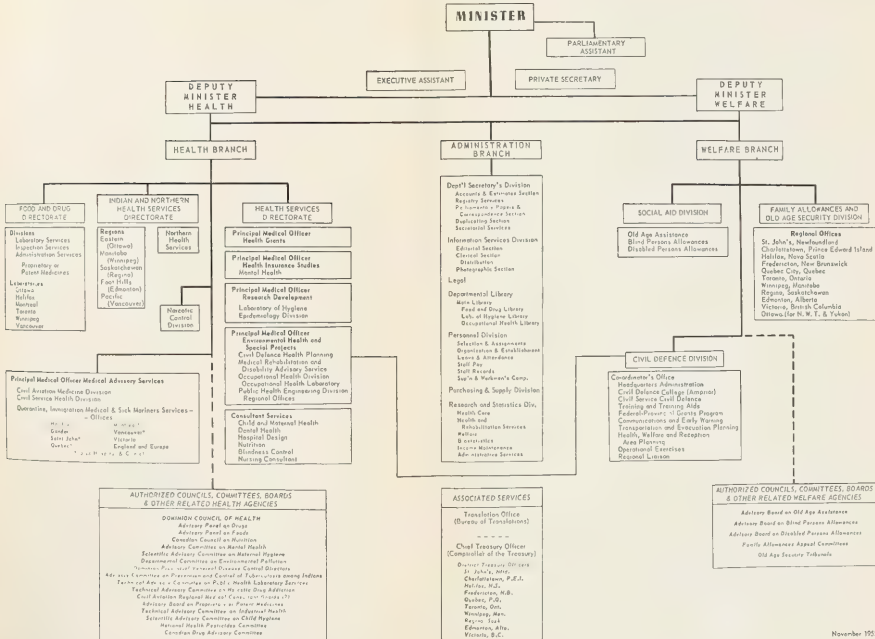
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## DEPARTMENT OF NATIONAL HEALTH &amp; WELFARE







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# ANNUAL REPORT

DEPARTMENT  
OF  
NATIONAL HEALTH  
AND  
WELFARE

FOR THE FISCAL YEAR ENDED MARCH 31

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THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE

# ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31

**1957**

Edmond Cloutier, C.M.G., O.A., D.S.P.,  
Queen's Printer and Controller of Stationery  
Ottawa, 1958



To His Excellency the Right Honourable Vincent Massey, C.H., Governor-General and Commander-in-Chief of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1957 (during which the previous administration was in office).

Respectfully submitted.

J. WALDO MONTEITH,  
*Minister of National Health and Welfare.*





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*To the Honourable J. Waldo Monteith, F.C.A., M.P., Minister of National Health and Welfare, Ottawa.*

SIR:

In submitting this Annual Report of the Department's activities for the fiscal year 1956-57, we take note of the fact that the period under review was prior to your assumption of responsibility.

During 1956-57, there were a number of important developments in the health and welfare fields at the federal level which we feel merit particular attention. On the health side, a Bill was introduced in the House of Commons towards the year-end authorizing federal payments to the provinces in respect of insurance programs providing basic ward hospital care and certain laboratory, radiological and other diagnostic services. The Bill, which was given first reading on March 25, 1957, stemmed from proposals made to the provinces by the federal government in January of the previous year. In the intervening period, these proposals had been accepted by five of the necessary six provinces and were still under study elsewhere.

The year also saw a progressive extension of the federal-provincial poliomyelitis immunization program under which the protection of the Salk Vaccine is provided without charge to children in the most susceptible age groups. The program's safety record was maintained and while other factors were operative, added weight was given to the vaccine's original promise of effective control against poliomyelitis by the continuing low incidence of the disease throughout Canada.

On the welfare side, one of the principal highlights of the year's activities was the inauguration of the new federal-provincial unemployment assistance program. Enabling legislation was given Royal Assent on July 11, 1956, authorizing the federal government to share with the provinces in expenditures for unemployment assistance made by a province or municipality whenever the number of persons assisted in any month exceeded 0.45 per cent of the provincial population. In anticipation of the enactment of this legislation, six provinces had signed agreements—five of which were retroactive to July 1955 and one to January 1956.

Towards the year-end, the federal government announced that amendments would be introduced to provide increased benefits under the Family Allowances Act and the Old Age Security Act; and that increases would also be sought in the benefit rates and income ceilings under the Old Age Assistance Act, the Blind Persons Act and the Disabled Persons Act. It was proposed that these various changes take effect September 1, 1957 in the case of Family Allowances and July 1, 1957 in the case of other programs. Legislative action had not yet been taken when the fiscal year ended.

The extent of the Department's activities was reflected in the fact that expenditures in 1956-57 rose to \$884.8 million—an increase of \$43.9 million over the previous year. The bulk of this increase was due to outlays under the new Unemployment Assistance Act and to the normal annual growth in such

established welfare programs as Family Allowances, Old Age Security and Disability Allowances resulting from the steady rise in Canada's population.

Mr. Minister, this letter of transmittal would hardly be complete without some reference to the generally efficient and conscientious manner in which the staff of this Department performed its duties in the year under review. We are confident that you may look forward to the same wholehearted co-operation and support which its members accorded the previous administration.

Respectfully submitted,

G. D. W. CAMERON,  
*Deputy Minister of National Health  
and Welfare (Health)*

G. F. DAVIDSON,  
*Deputy Minister of National Health  
and Welfare (Welfare)*

OTTAWA, Canada.

# HEALTH BRANCH

## INTRODUCTION

While the subject of federal participation in provincial hospital insurance schemes probably took first place in the interest and attention of workers in the health field, the year under review has seen much activity and some significant developments in other important areas.

### ***Ionizing Radiation***

The biological effects of ionizing radiation, with its possible long-term as well as its more immediate dangers to the public health, continues to be a pressing problem. It requires much research to improve our current rather limited factual knowledge as well as rational precautionary planning and protective measures to serve our interests during the present rather uncertain period. The rapidly increasing use in both medicine and industry of radio-active isotopes and high-energy electron accelerators is posing many problems of both practical and theoretical nature to engage the attention of the biologist as well as the physicist. To encourage research, to translate existing knowledge into sound practical advice and to attempt some measure of control over known hazardous situations are functions which, while taxing the resources of the department to the limit of its present capacity, are continuing to receive the closest possible attention.

### ***Child and Maternal Health***

In the field of child and maternal health it is gratifying to note that maternal deaths in Canada in 1955 were about one third of the rate which prevailed ten years earlier and that infant deaths fell from a rate of 51 to 31 per 1,000 of live births in the same period. Close examination of the causes of these deaths, which is now receiving more widespread attention reveals, however, no cause for complacency. Many maternal deaths would be preventable with good maternity care to more mothers and many countries with comparable or lower standards of living report better infant mortality rates than Canada's. Progress is being made but there is still a tremendous field for education of the lay population, hospital staffs and the medical profession, if this improvement is to be continuous.

### ***Pollution Control***

Inspection and control of sanitation in food and water supplies, disposal of waste and common sewerage in areas falling outside provincial jurisdiction, or clearly within that of the federal government, continue to be an increasing responsibility as development of our previously unorganized regions progresses. Coincident with this is a need for unrelaxed vigilance in the control of pollution of boundary waters and water supply sources by rapid industrialization and urban development.

### ***Foods and Drugs***

The effectiveness of the Food and Drug Directorate in protecting the consumer against adulteration, contamination and misrepresentation of many varieties of products has been straightened by recent legislation which permits prosecution in the courts of repeating or flagrant offenders. While offences of this nature are the exception rather than the rule their elimination is a boon not only to the consuming public but to the reputable segments of the industries in which they operate. In general, producers, processors and manufacturers of food and drug products in Canada aim at and achieve a high standard of quality. The unscrupulous or careless operator can, however, damage the reputation and weaken public confidence in whole sections of an industry, thereby destroying valuable markets as well as creating more than local public health hazards. Because, in the face of keen commercial competition, there is always a temptation to cut corners in reducing costs, the strengthening and continued activity of this section of the department is highly important.

### ***Employee Health***

The Civil Service Health Division continues to provide a health supervisory service to approximately 33,000 federal government employees in the Ottawa area as well as a medical advisory service to government departments covering all Canadian Government employees in Canada and abroad. Since its inception ten years ago the number of health units has expanded from the original six to twenty-five, and the number of nursing counsellors employed from twelve to fifty. While the growth of this division was gradual, largely the result of the acute shortage of space following the war years, it was probably a healthy type of growth. Policies and procedures could more readily be moulded into practical and desirable patterns, and the art of accomplishing the most with the least in facilities and staff was learned early and well. While it has been impossible to show, on a statistical basis, what, if any, economic saving accrues to the government, as an employer, through this service, it is interesting to note that the average civil servant visits his or her health unit about once in every two months and that only about 2.4 per cent of these are sent home while the remainder are returned to their employment. The fact that there is a continuing demand from departments for the establishment of new units would suggest that they are providing, from the employer's standpoint, a useful and desirable type of service.

### ***Organization***

The only organizational changes during the year were in the Health Services Directorate where it seemed advisable to rearrange some sections in greater accordance with their actual functions.

This directorate has usually been described as being primarily concerned with matters relating to assistance to the provinces. Actually its activities cover a broader field than this. It has, as well, statutory duties which are federal in character, responsibilities for the co-ordination of extra-mural and intra-mural



research activities, the provision of assistance and consultant services to other parts of the department and other departments of the federal government, and still other obligations related to the international health field.

As illustrated by the chart at the back of this report, the work of the Directorate is carried out, under the over-all supervision of the Director of Health Services, by an administration section, by four main sections, each of which is headed by a principal medical officer, and by a number of consultant divisions covering special fields. The Administration Section provides general administrative assistance to the Director and, on a consulting basis, to the various divisions of the directorate. A principal medical officer is responsible for the work of each of National Health Grants Administration, Health Insurance Studies, Research Development and International Health, and Environmental Health and Special Projects. Special health services include: Child and Maternal Health, Dental Health, Hospital Design, Mental Health, Nutrition, Blindness Control and the position of Nursing Consultant.

### ***Dominion Council of Health***

The Dominion Council of Health, first organized in 1919, continues to serve as the principal advisory body to the Minister on matters relating to the health of the people of Canada. The duties and powers of the Council include "the furnishing of advice to the Minister of National Health and Welfare in respect to the matters provided in section 5 of the Department of National Health and Welfare Act". The Council also provides a medium through which the provincial health departments are able to co-operate effectively in the solution of health problems and to co-ordinate their efforts in dealing with matters of national concern.

Two meetings of the Dominion Council of Health were held during the fiscal year under review. Special consideration was given to the federal proposals in respect to prepaid hospital care and diagnostic services and the administrative problems which will arise when these proposals are implemented.

The health problems resulting from the increasing use of radiation in diagnosis and therapy, as well as the dangers to the public from other forms of radiation, such as that arising from the development of nuclear energy, were also taken under consideration.

Steps are being taken with a view to establishing poison control centres in hospitals across Canada, a matter in which the Food and Drug Directorate of this Department and the Poison Committee of the Canadian Pediatric Society have been particularly interested. The Dominion Council of Health has already given thought to the responsibilities of the provincial health departments in the organization and conduct of the proposed centres.

The quality of milk used in manufacturing and on inter-provincial and international carriers is another matter on which co-operation between the various provincial health departments is most desirable, and problems associated with air pollution have been increasingly recognized. It is hoped, through co-ordination of activities in the different provinces and at the federal level, to assess the potential dangers arising particularly from modern industrial development, and to work out effective control measures to reduce such dangers to the minimum.

**Financial Provision**

As in previous years a breakdown is appended of the total estimates for the Health Branch of the year under review, as well as for the preceding year for purposes of comparison.

**NATIONAL HEALTH BRANCH ESTIMATES**

For 1955-56 and 1956-57

	1955-56	Percentage	1956-57	Percentage
STATUTORY OBLIGATIONS .....	\$ 4,555,072	7.8	\$ 5,105,113	7.9
Quarantine and Leprosy.				
Immigration Medical Services.				
Sick Mariners Treatment Services.				
Public Health Engineering.				
Civil Service Health.				
Administration of the Food and				
Drugs and the Proprietary or				
Patent Medicine Acts.				
Administration of the Opium and				
and Narcotic Drugs Act.				
CO-OPERATION WITH PROVINCES .....	1,912,517	3.2	1,967,318	3.0
Laboratory of Hygiene.				
Occupational Health.				
Epidemiology.				
Special Technical Services.				
Health Insurance Studies.				
MISCELLANEOUS GRANTS .....	177,450	0.3	176,950	0.3
Grants to Health and other				
Organizations.				
GENERAL HEALTH GRANTS .....	33,750,000	57.7	37,750,000	58.3
INDIAN HEALTH SERVICES .....	17,159,026	29.3	18,395,091	28.4
NORTHERN HEALTH SERVICES .....	815,230	1.4	1,224,610	1.9
NATIONAL HEALTH BRANCH—				
ADMINISTRATION .....	170,050	0.3	160,520	0.2
	<u>\$58,539,345</u>	<u>100%</u>	<u>\$64,779,602</u>	<u>100%</u>

(Totals include Supplementary Estimates and allotment from Finance General Salaries Vote.)

## FOOD AND DRUGS

### FOOD AND DRUG DIRECTORATE

#### GENERAL

The Food and Drugs Act and the Proprietary or Patent Medicine Act govern the safety, purity and quality as well as the labelling and advertising of all foods, drugs, therapeutic devices and cosmetics. Both Acts are administered by the Food and Drug Directorate.

Since the new Food and Drugs Act became effective in July 1954, more time and effort have been devoted to factory inspection in both the food and drug industries. There are an estimated 10,000 food manufacturing plants in Canada. While the number of manufacturers and distributors of drug products is only about 500, the variety of products is seemingly endless. A conservative estimate of the number of different drug products including brands of drugs on the Canadian market would be 25,000.

As an adjunct to the spot check system for products on the market, the drug plant inspection program attempts to insure that good manufacturing procedure is followed throughout the industry. The program has been responsible for a steady improvement in the manufacturing conditions throughout the industry. Manufacturers and distributors are becoming more aware of their responsibility to the public in the distribution of safe drugs truthfully described. Control which is completely adequate, which was always evident in some firms, is becoming general.

During the year, there have been a number of prosecutions for violations of the Food and Drugs Act and higher penalties have been obtained than in former years. A survey in all the provinces of Canada, relative to the illegal sale of prescription drugs, has been conducted. This survey, including approximately 60% of the drug stores in Canada, was the most comprehensive attempted, and has provided valuable information on the observance of the prescription regulations and will result in legal action where circumstances warrant it.

Developments in the field of pesticides have been startling and new pesticides are being developed constantly. This presents a problem for this Directorate in ensuring that harmful residues do not remain on the food as sold to the consumer. Submissions regarding new pesticides are reviewed in this light before they are introduced to the market, and work in the laboratories is concentrated on establishing safe tolerances where this can be done. Safe and practical tolerances for 15 insecticides in a large number of foods are included in the Food and Drug Regulations.

The subject of chemical additives to foods is one of interest to this Directorate, as it is to enforcement agencies throughout the world and the World Health Organization. All requests for permission to use new food additives in Canada are reviewed very carefully and chronic toxicity studies are very important. The World Health Organization is establishing a clearinghouse for information on these substances.

One of the functions of the Biophysics Section which was established in 1956 will be to study the possible increase in the long-lived radio-active isotope content of food material due to the reported slight increase in atmospheric contamination.

Accidental poisonings among children, sometimes fatal, are assuming greater importance. The medical section is working with the provincial departments of health and a number of hospitals to provide information about the composition of household articles and on the treatment of cases of accidental poisoning.

The project or survey system of enforcement is being continued and developed. In order to make it more effective, it has been found advantageous to conduct two conferences of the Regional Directors in Ottawa during the year and chemists have been brought in from the regions for training in Ottawa on specialized methods.

Assistance of a technical or enforcement nature was given to a number of other government departments and agencies including the Departments of Agriculture, Fisheries, National Revenue, National Defence, Trade and Commerce, Veterans' Affairs and the Royal Canadian Mounted Police. Members of the Directorate take part in the scientific activities of the World Health Organization, the United States Committee on the National Formulary, the United Nations Narcotic Commission, the British Pharmacopœia Commission, the United States Pharmacopœial Commission, the Association of Official Agricultural Chemists, and other foreign or international bodies. Consultations have been held with the United States Food and Drug Administration, the United States Public Health Services and the British Ministries of Food and Health.

The Directorate has several panels or boards of experts to advise on technical and medical problems. Much of the work is carried on by correspondence, but the Drug Advisory Committee meets annually.

### **Consumer Relations**

The purpose of the Food and Drugs Act is primarily consumer protection; protection against health hazards and fraud in the advertising, sale and use of foods, drugs, cosmetics and medical devices.

The function of this section is to provide information to the general public for these expressed objectives and to co-ordinate similar work of all divisions of the Directorate.

One hundred and sixty-two thousand two hundred and fifty booklets and pamphlets were distributed to societies and organized groups as well as to individual consumers.

Displays depicting the organization, fields of interest and methods of working of the Directorate were shown at many exhibitions, conventions and universities across Canada. There were a number of news stories on matters of general interest issued and assistance was provided to writers preparing magazine articles and radio or television scripts dealing with food and drug subjects.

A meeting of officers of the Directorate with representatives of the Canadian Association of Consumers was held to discuss matters pertaining to packaging and to establish a basis for policy in the enforcement of Food and Drug regulations in that respect.

### **Medical Section**

During the year, 173 new drug submissions were received from manufacturers in Canada, the United States, Great Britain, France and Germany. During this period, 146 new drugs obtained clearance. Submissions for 19 products were officially withdrawn and 20 submissions were received which were not considered as new drugs. Clinical investigational work showed an increase in Canada again this year as 127 drugs were imported for investigational work in contrast to 78 in 1955.



Considerable progress was made in the work of the Poison Control Program. Information cards concerning the potentially toxic ingredients in household chemicals and medicaments were prepared for distribution early in 1957. The Canadian Pediatric Society and the provincial departments of health assumed more dominant roles in arranging Poison Control Centres in various hospitals.

The medical section continued to develop liaison with the Canadian Medical Association and other professional bodies in an effort to explain the actions and purposes of the Directorate.

### **Regions**

The major share of enforcement work is carried out in the five regions into which Canada is divided for purposes of administering the Act. In addition to enforcement work the regional officers maintain close contact with the trade and public and with other government departments both provincial and federal. Like all other branches of the Directorate their function is educational as well as administrative and regulatory. A tabular summary of the regulatory work of the regions is included at the end of the Directorate's report.

In the regions a large part of the time devoted to domestic products was spent in surveys or projects such as inspections of food plant sanitation and drug plant control systems and analytical work on selected types of foods and drugs.

Addresses and lectures outlining the purpose and activities of the Food and Drug Directorate were given to special groups and to the general public at meetings and by radio or television.

### **INSPECTION SERVICES**

Enforcement of the Food and Drugs Act is one of the main responsibilities of Inspection Services and to this end inspection at the source was continued during the year. During these inspections, inspectors were called on to discuss many varied subjects with a rather diverse group of people including consumers, retailers, manufacturers and officers of other municipal, provincial and federal agencies.

#### **Food Plants**

To ensure that food is being manufactured under sanitary conditions, 3,974 inspections were carried out during the year. Many of the inspections completed were of a repeat nature where it was found that an early follow-up was necessary. There has been much evidence of improvement in the industries visited; however, surveys carried out indicate the need for continued effort in repeat visits and to the entry of our inspectors in some of the industries not yet visited.

In a few instances it has been necessary to use the warning of possible seizure and/or legal action to gain compliance and in one case conditions were found to be so disgusting that 14,000 lbs. of cheese were seized as being manufactured and stored under unsanitary conditions.

#### **Drug Plants**

A total of 409 drug plant inspections were made, the greater number being located in the East Central and the Central Regions.

#### **General Enforcement**

Enforcement action may take one or more forms depending on the circumstances of each case and may consist of warnings, seizures or prosecutions. During the year, 72 seizures were made of food and drugs and it was found necessary to carry 42 prosecutions to the courts.

Reviews of radio and television continuities were continued on behalf of the Canadian Broadcasting Regulations, with a total of 19,313 continuities examined.

One of the highlights of the enforcement program included a seizure of \$26,000 worth of estrogen hormone preparations which, by label, recommended a dosage in excess of that which had been considered safe.

In a survey carried out early in the year, it was evident that many manufacturers packaging acetylsalicylic acid preparations and recommending their use by children, were not displaying a cautionary statement on the cartons.

Since three of the previously permitted food colours were removed from the permitted list, close checking of shipments of oranges from the United States was found necessary and several shipments were refused entry into Canada.

### **ADMINISTRATIVE SERVICES**

Administrative Services is made up of the Stores and Supplies Section, the Clerical Pool and the Stenographic and Typing Pool.

The Stores and Supplies Section adopted the revised method of recording stock control and inventory returns in accordance with the Administrative Manual issued by Purchasing and Supply Division. The adoption of the revised method ensures uniformity of control throughout the department. Approximately 5,000 items, including equipment, chemicals, stationery and glassware were controlled and some 1,200 requisitions for purchases were handled. Records on each of the Directorate's motor vehicles were maintained.

The Clerical Pool is responsible for an up-to-date mailing list covering drug manufacturers, food establishments and proprietary or patent medicines. The Clerical Pool also checked travel claims, accounts, and kept records of prosecutions and seizures.

The Information Centre is responsible for weekly reports on detained imports, a record of radio and television scripts (French and English) and a monthly sanitation inspection report.

The Stenographic and Typing Pool prepared papers for publication including staff information letters, trade information letters and minutes of meetings.

### **PROPRIETARY OR PATENT MEDICINE DIVISION**

The Proprietary or Patent Medicines Act is concerned exclusively with secret formula medicines sold under proprietary or trade names, and its control rests mainly on registration before marketing and renewal of registration by annual licence. Two advisory bodies assist in the review of applications. The Advisory Board established under Section 9 of the Act, has the responsibility of regulating the alcohol content of medicines and of defining the doses of the drugs listed in the Schedule to the Act. Another board of medical officers, pharmacologists and other competent persons in the department, assist in the assessment of therapeutic claims made for proprietary preparations and determine if their medicinal ingredients are sufficient and suitable to support or to justify such claims.

A complete register of preparations is kept and continuously brought up to date. During the year, 3,069 preparations were reviewed. One hundred and sixty-five new medicines were examined for registration; 113 were approved and 52 rejected. Licences were granted to 1,150 manufacturers located in various parts of Canada, but mostly in Quebec and Ontario.

Another major function of this division is to control commercial advertising of proprietary or patent medicines. Over 15,000 newspaper advertisements have been reviewed and 291 advertisements containing misrepresentations or exaggerated

claims were brought to the attention of the manufacturers and have been corrected. Approximately 1,084 labels, wrappers and other advertisements were criticized. Twelve hundred and seventeen radio and television commercials for proprietary or patent medicines, received from the Canadian Broadcasting Corporation, were examined as to therapeutic claims before final clearance by the Canadian Broadcasting Corporation.

This division has the responsibility of ascertaining that registered preparations are properly compounded, correctly labelled and otherwise meet all the requirements of the Act. During the past year a survey of proprietary or patent medicines containing acetylsalicylic acid and phenacetin was made. The majority of the products examined were satisfactory. A few exceptions were found indicating carelessness in manufacture, and these were promptly brought to the attention of the manufacturers concerned.

### LABORATORY SERVICES

The five regional laboratories and two district laboratories are concerned mainly with enforcement work, collaborative work and investigations.

Analyses of foods, drugs and cosmetics are made in the regional laboratories. The laboratory in Ottawa carries out chemical, physical and biological work necessary for investigations into new products, for the development of methods of analysis or assay and for collection of information regarding proposed standards for both food and drugs. Collaborative work on new methods is carried out between regional and headquarters laboratories, and also with comparative enforcement agencies in other countries. Special surveys and projects are assigned to regional laboratories including examinations and analyses of products sold locally or on a national scale.

### General

Adulteration of foods with cheaper constituents continues to be a problem. Recently, rapeseed oil was used as an adulterant in olive oil. A new method of detecting this adulteration has proved to be relatively rapid and can detect low levels of rapeseed oil in olive oil.

Surveys on enriched bread and enriched flour have indicated that the factors of enrichment are not always present in the labelled or claimed amounts. Variations in the vitamin content of enriched flour were detected.

The physiological availability and *in vitro* disintegration time of tablets has continued to be under investigation by the Pharmaceutical Chemistry and Vitamin and Nutrition Sections. As a result of data reported last year, regulations have been passed to require that all tablets, with the exception of those which are represented as being enteric coated or as having delayed action must disintegrate in one hour by the Official Method. Information available indicates that this regulation should ensure full physiological availability of most medicaments in these tablets. Particular attention has been paid recently to the increasing number of enteric coated and delayed action preparations. Surveys of the latter have indicated that there are at least 85 such products on the Canadian market, representing the production of 33 companies.

The work on constants and methods of characterization of essential oils carried out as a collaborative project between the Organic Chemistry Section and the Cosmetics and Alcoholic Beverages Section has produced data long needed in control and regulatory work.



Other highlights of the work of Laboratory Services for the year were continuation of the study of the methods for identifying the geographical origin of opium and the establishment of the Biophysics Section. The following are examples of the studies conducted in the central laboratory at Ottawa. Much of the fundamental research forming part of these studies has been reported in scientific literature.

### **Organic Chemistry Section**

Methods of isolation, purification, identification, characterization and quantitative estimation of drugs including alkaloids, narcotics, barbiturates and essential oil constituents were studied.

A unified method of analysis of opium for morphine, codeine, thebaine, papaverine, narcotine, porphyroxine-meconidine, and other minor phenolic alkaloids has been investigated thoroughly. The rapid isolation of morphine, codeine, thebaine, papaverine and narcotine is now possible using two dimensional paper chromatography.

Collaborative work with the crime detection laboratories of the Royal Canadian Mounted Police and the Ontario Attorney General's Department and other federal, provincial and municipal agencies was continued with a view to establishing a set of pure drug reference standards and data such as ultraviolet, infra-red and X-ray powder diffraction patterns, optical crystallographic properties and other physical and chemical data useful in analysis of drugs and in the detection of fraudulent practices. Co-ordination of this project is being carried on by members of this Section.

Special emphasis has been placed on investigation of the chemical constituents of essential oils.

The United Nations program for training foreign scientists under the Technical Assistance Administration plan was inaugurated. A chemist from Singapore is receiving training in methods of determining origin of opium seized in the illicit drug traffic. The World Health Organization has also made available a fellowship for another scientist from Iran to study methods of opium analysis developed in Canada.

Twelve papers have been published by members of this Section during the year, and in addition, three chapters for Stolman & Stewart's text—"Toxicology: Mechanisms and Analytical Methods", Volume II are being written.

### **Pharmaceutical Chemistry Section**

During the past fiscal year, work has continued on the development of non-aqueous titration techniques for the assay of organic acids and bases. Procedures have been developed for the rapid determination of some of the new tranquilizer drugs in all of their pharmaceutical forms. Methods of analyses of ointments and suppositories have been studied and non-aqueous techniques have been devised for several types of this form of medication.

A project on the identification of the barbiturates was undertaken in collaboration with the Organic Chemistry Section.

A combination of aminophylline, ephedrine and phenobarbital is a mixture which occurs in both tablet and capsule preparations. They have long posed a serious problem to the analyst who is faced with the task of determining their potency. While column chromatography has been used with some success, the problem is not yet solved.

Of the 90 pharmaceuticals which were analyzed for enforcement purposes, 69 were satisfactory and 21 unsatisfactory.

### **Food Chemistry Section**

The use of chemicals in the production and storage of food crops continues to increase. Chemicals used to control insect pests, fungi, weeds and to prevent the premature sprouting of stored vegetables, may leave detectable and possibly harmful residue on foods. To ensure that no harmful residues reach the consumer, this Section has the responsibility of assessing the residues to be expected in or on foods and to establish residue tolerances which permit the use of such chemicals. During the year, 38 petitions have been reviewed and tolerances set as required.

To keep pace with the ever-changing food industry it is necessary to develop new analytical procedures or to extend the use of existing methods to the analysis of new foods. In this connection, a method for determining antioxidants in edible fats has been extended to the analysis of antioxidant-treated nuts. This will be a new and rapidly expanding use of antioxidants to delay rancidity.

In co-operation with the Biometrics Section new sampling procedures have been established which permit a more reliable estimate of "insoluble solids" content of jams, an index of fruit content, and the percentage of defective cocoa beans in import shipments.

To ensure that the Directorate keeps abreast of new food developments, surveys are conducted by this Section. A survey of 105 commercial frozen meat pies has been conducted to determine whether a standard should be set for such foods. In addition, the fill of 172 food items packed in glass containers and the carbohydrate content of 86 fillers and binders used by the meat industry have been determined. A survey of the fluoride content of 85 domestic and imported gelatine samples has been made.

### **Microbiology Section**

A number of papers emanating from the Section express the continuing interest in the staphylococci and their toxins.

Because of the growing trend towards the marketing of pre-cooked foods and frozen pre-stuffed poultry, studies have been undertaken to investigate any associated potential public health problem. Examination of over 100 marketed specimens of frozen pre-cooked dinners revealed a common presence of coliforms, enterococci, staphylococci and, on occasion, excessively high "total bacterial counts". The reaction to this finding is to be persuasive towards greater hygienic control at the factories, the products being watched carefully meanwhile for practical demonstration of hazard.

### **Pharmacology and Toxicology Section**

An improved method for the determination of nitrogen in dextran plasma expanders was established. The results of a survey of clinical dextran preparations and the methods used in their analysis were published.

An investigation of methods of assay of proteolytic enzymes, particularly trypsin and chymotrypsin which are in clinical use, was initiated. Methods employing specific substrates have been developed. These methods enable the determination of the two enzymes individually and in mixtures. Checks on the purity of commercial preparations as measured by enzyme activity, protein content, and electrophoretic fractionation on the starch blocks are being conducted.

Preliminary experiments to determine the acute toxicity of muscle relaxants in rats pre-treated with a few representative insecticides were reported previously. The results of this study have been accepted for publication.



An investigation was carried out to determine the interaction between alcohol and several tranquilizing drugs. Some of the tranquilizers augmented the action of alcohol by as much as 178 per cent, while a few had no effect. This work is continuing.

The food colours, Amaranth, Tartrazine and Sunset Yellow have been tested in feeding experiments lasting well over a year. Plans are completed for continuing this chronic toxicity work on four more coal-tar colours.

Most of the coal-tar food colours used in Canada have also been assayed biologically for possible estrogenic activity. There was no evidence of estrogenic activity in the colours tested.

Further work has been carried out to determine the validity of an experimental procedure which may be used in screening new drugs for possible agranulocytosis-producing property. The details of the procedure have been published in the literature.

Using a biological method which was improved in the laboratory, the adrenergic activity of some ergotamine preparations on the market were assayed. One preparation was found to contain far less ergotamine than the claimed amount. As a result, the sale of the product was suspended until adequate control procedures are instituted by the manufacturer.

A biological procedure was worked out for the assay of atropine. Using this biological method, one atropine preparation was found to possess appreciably less activity than the claimed amount. A survey of the market is being carried out.

A number of chemical, physical and biological methods were investigated during the year. These were for the assay of hyaluronidase, serum cholesterol, serum proteins and Botropase, a snake venom. A satisfactory method has been worked out also to determine the size of droplets produced by various nebulizers used for inhalation therapy.

Work continues on a study to ascertain whether there is satisfactory agreement between the chemical and biological estimations of activity in *Rauwolfia serpentina* extracts.

### ***Biometrics Section***

During the year a total of 16 experimental designs were drawn up for laboratory studies on precision of analytical methods, comparative nutrition and sampling methods. Seventeen laboratory studies were totally analyzed in the Section. The statistical results were interpreted and reported to the section concerned.

The Section study on methods of determining slack fill of paper-wrapped, cardboard base candy bars has reached the stage of a national survey. A method has been defined, criterion for acceptance determined and precision of the method established through a collaborative study with the regional laboratories.

The cacao bean study on precision of the examination method has been completed to the stage where the method is stable.

### ***Physiology and Hormones Section***

The recent approval of the use of diethylstilbestrol in feed supplements for beef cattle necessitated the investigation of methods not only for the determination of the synthetic estrogen in the premixes and the cattle feed, but also for the detection of estrogenic residues in the edible tissues of the treated animals. The results of this investigation were presented in a paper which was read before the Canadian Physiological Society.

A survey of methods for storing insulin in pharmacies indicated that in many instances, the insulin was not refrigerated prior to sale. The potency of such unrefrigerated samples was usually below that stated on the label.

### **Animal Pathology Section**

Three thousand nine hundred and eighty-eight sections of tissue were examined microscopically during the year. The tissues were principally from animals on feeding trials of food colours, pesticides and substances producing agranulocytosis, muscular dystrophy and atherosclerosis.

A technique was developed for the positive histologic identification of liver cell nuclei. The technique employs a differential stain which greatly facilitates both the accuracy and the speed of such counts.

Preliminary studies on the methods and techniques of securing biopsy specimens were made and a new technique for obtaining biopsy specimens of bone marrow in rats was developed.

A study of laboratory methods of liver and kidney function tests that may be applied to small laboratory animals was undertaken. The application of these methods to animals on test will provide essential information for use in the clinical pathological assessment of the toxicity of test substances.

A technique was developed for cannulation of the gall bladder of rabbits for collection of bile. The technique involves implantation of polyethylene tubing into the gall bladder proper.

During the year, 25,000 rats and 4,500 mice were raised. The present low mortality rate of approximately one per cent is attributed to selective breeding to eliminate middle ear disease and to better facilities now available in the new building. Other animals used include 80 guinea pigs, 131 rabbits, 21 chickens and 48 pigeons.

### **Cosmetics, Food Colours and Alcoholic Beverages Section**

The difficulties involved in maintaining standards for the artificial food colours used in Canada have largely been overcome during the past year.

While exact figures are not available for the total volume of colours approved, it is estimated that the total approached 140,000 lbs. (or 4 gms. per capita) of which approximately 70%, 20%, and 10% originated in Canada, the United States and the United Kingdom respectively. Three colours, Amaranth, Tartrazine and Sunset Yellow FCF, comprised more than 60% of the total.

Increased attention has been given to the oil-soluble azo food colours as regards possible health hazard. An investigation into the metabolic fate of food colours in test animals was initiated this year and is being continued.

A considerable volume of regulatory work including identification and determination of colours in food products, examination of various cosmetic preparations, and testing of alcoholic beverages, was performed by this Section.

### **Vitamin and Nutrition Section**

Discussions with the Canadian Pharmaceutical Manufacturers Association have been continued on the question of the proposed use of expiration dates on multivitamin products. Preliminary information indicates that a test which can be carried out in three or four weeks is capable of predicting quite accurately the potency of the preparation six months later at room temperature. Studies are being extended.

Interest has continued on the merits of the suggested enrichment of certain cereal products with amino acids such as lysine. To date, there appears to be no demonstrated need for the addition of lysine to cereals.

A procedure for the purification and measurement of Vitamin B<sub>12</sub> in natural materials of low potency has been developed by modification of the U.S.P. radioisotope tracer assay. The modified method was found to be sensitive, to yield reproducible results, and to be quite specific.

This laboratory took part in two collaborative Vitamin A assays sponsored by the International Vitamin Commission. As a result of these studies a new conversion factor and a new chromatographic procedure were proposed. The determination of riboflavin in foods is also being studied collaboratively with workers in the United States.

A survey was made of the Vitamin D content of some 20 samples of codliver oil on the Canadian market. Almost all samples of oil met the label claim. The validity of the radiophosphorous procedure for Vitamin D assay has given potencies and confidence limits which conform closely to those obtained by U.S.P. line test.

Much interest has developed in the last year in the possible use of rapeseed oil as a food constituent in Canada. Since it is readily produced in Western Canada, studies of its physiological action were undertaken to determine its acceptability.

### **Biophysics Section**

In collaboration with the Department of Agriculture and the Commercial Products Division of the Atomic Energy of Canada, an investigation of the effect of gamma radiation on potatoes has been initiated. This Section helped in the initial phase of the project, assisted in the planning of the various tests, the packaging of the samples and is responsible for the detection of any possible biochemical changes in the irradiated samples by the use of biophysical methods.

An electron paramagnetic resonance apparatus has been designed and is being built to study radiation damage in food and drug material. This apparatus is not yet commercially available. It is possible with it to detect and often identify the long mean life free radicals which might have been formed by the passage of radiation through a given material.

An X-ray diffraction laboratory was organized early in December 1956. Powder diffraction has proved to be a useful means for the characterization of new chemical compounds and the identification of unknown compounds.

In order to keep a check on the possible increase in the long-lived radio-active isotope content of food material due to the reported slight increase in atmospheric contamination, a number of canned samples of various vegetables, having been processed as far back as 1945, have been collected. It is intended, from year to year, to obtain fresh samples of the same vegetables from various parts of Canada and carry out a comparative analysis.

**TABLE 1**  
**(Food and Drug Directorate)**  
**DRUGS EXAMINED**  
**From: April 1, 1956 to March 31, 1957**

LABORATORY	DOMESTIC				IMPORTS			
	Samples	Adulterated	Misbranded	Other Infractions	Shipments	Adulterated	Misbranded	Other Infractions
Halifax.....	105			60	226			213
Montreal.....	502			425	4,896			542
Ottawa.....	317	5	45	12	6			
Toronto.....	413	72	119	8	442	3	161	87
Winnipeg.....	316	96	126		280		119	240
Vancouver.....	994			775	183			153
Totals.....	2,647	173	290	1,280	6,033	3	280	1,235

TABLE 2  
(Food and Drug Directorate)  
EXAMINATION OF DOMESTIC FOODS  
From: April 1, 1956 to March 31, 1957

	Laboratories						Adul- terated	Mis- branded	Other Infrac- tions	Totals
	Halifax	Montreal	Ottawa	Toronto	Win- nipeg	Van- couver				
Alimentary Pastes.....				2	5	1	1	2		8
Baking Powder, Leavening Agents or Chemicals.....	2				13	3		1	4	18
Bakery Products—Cakes, Pastry.....	1		7	8	18	1	15	8	2	35
Beverage and Beverage Concentrates.....	52	309	2	4	9	42	4		77	418
Bread, Flour and Cereals.....	31	293	35	132	194	14	59	31	225	699
Breakfast Foods.....			1	2			1	1		3
Confectionery.....	178		23	44	40	87	17	14	59	372
Dairy Products.....	277	4,860	7	110	169	154	110	11	872	5,577
Dessert Powders and Mixes.....	6		4	1	13			10	4	24
Eggs and Egg Products.....			1			1				2
Fish and Fish Products.....	136	1	42	28	89	85	37	7	32	381
Food Colours and Flavours.....	41	1	8	3	28	14	13	6	14	95
Foods, Oriental.....										
Fruits, Fresh.....	50		4	173	13	91	2	2	36	331
Fruits, Canned.....	32		2	95	9	129	6		21	267
Fruits, Dried.....	13		1	4	89	10	1	64	3	117
Fruits, Glazed or Candied.....	1		6	2	60		1	30		69
Gelatin.....						1				1
Honey and Honey Products.....	12		1		8	45		8	8	66
Jams and Jellies.....	33	61	12	188	9	163	94	3	87	466
Juice and Syrups.....	21	1	13	23	38	55	9	21	23	151
Lard and Shortening.....	17	1	3	1			1		5	22
Liquors, Distilled and Fermented.....	30		1		6	10			10	47
Meat and Meat Products.....	188	97	53	251	172	444	110	9	112	1,205
Nuts.....	4		2	2	7					15
Oils.....		58	10	6	61	10	40	4		145
Pickles.....	1		6	3			1		1	10
Preservatives.....	1					1			1	2
Salad Dressings, Sandwich Spreads and Other Condiments.....	1	11	10	28	5	3	3	1	1	58
Soup and Soup Mixes.....	34		4		10		4		27	48
Spices.....				19	3	71			4	93
Sugar and Substitutes.....	7		1	2					5	10
Sweeteners, Artificial.....				3				2		3
Syrups and Molasses.....	32				3	28		1	36	63
Vegetables, Canned.....	34	1	4	109	8	119	9		62	275
Vegetables, Dried.....	6		3			9	1	1	2	18
Vegetables, Fresh.....	10		3	4	35	27		1	6	79
Frozen Peas.....				3						3
Vinegar.....	3			2				1		5
Water.....	5				7	129				141
Miscellaneous.....	48		11	7	34	6	11	15	29	106
Department of Agriculture—Dairy Division.....				392			361			392
Department of Agriculture—Fruit and Vegetables Division.....				1,531			36	3	1	1,531
Grand Totals.....	1,307	5,694	280	3,182	1,155	1,753	947	257	1,769	13,371



TABLE 3  
(Food and Drug Directorate)  
EXAMINATION OF IMPORTED FOODS  
From: April 1, 1956 to March 31, 1957

	Laboratories						Adul- terated	Mis- branded	Other Infra- ctions	Totals
	Halifax	Montreal	Ottawa	Toronto	Win- nipeg	Van- couver				
Alimentary Pastes.....										
Baking Powder, Leavening Agents or Chemicals.....	8			1		1				10
Bakery Products—Cakes, Pastry.....	58			14	8	17	1	10	19	97
Beverage and Beverage Concentrates.....	174	31		15	98	36		11	71	354
Bread, Flour and Cereals.....	1	3	4	2	2	3		4		15
Breakfast Foods.....	1			1				1		2
Confectionery.....	206	46		99	226	143	22	24	65	720
Dairy Products.....	11	1		15	8	100		5	26	135
Dessert Powders and Mixes.....	1			6		5		4	2	12
Eggs and Egg Products.....						1				1
Fish and Fish Products.....	1	1		59	1	9	13	2	4	71
Food Colours and Flavours.....	1		2	8	11	8	1		5	30
Foods, Oriental.....	23				5		5		2	28
Fruits, Fresh.....	44	33		4	15	7	6		19	103
Fruits, Canned.....	18	2		1					4	21
Fruits, Dried.....	618	566		27	753	424	3		132	2,388
Fruits, Glazed or Candied.....				3	2	3	2			8
Gelatin.....			3			3				6
Honey and Honey Products.....	8			1		4			2	13
Jams and Jellies.....	8					57			12	65
Juice and Syrups.....	84	3		2	7	27		1	26	123
Lard and Shortening.....	2	5				1			2	8
Liquors, Distilled and Fermented.....	2					1			1	3
Meat and Meat Products.....	164				2	90			6	256
Nuts.....	1,363	3,336		169	977	962	10		1,063	6,807
Oils.....	2	10				2	6		1	20
Pickles.....	8				19	1			4	28
Preservatives.....						1				1
Salad Dressings, Sandwich Spreads and Other Condiments.....	6			11	2	16	1	8	2	35
Soup and Soup Mixes.....	4			1		5	2	1		10
Spices.....	177	582		12	85	103	4	3	65	959
Sugar and Substitutes.....	2			2			1			4
Sweeteners, Artificial.....				2				2		2
Syrups and Molasses.....	156	2		2	4	2		1	2	166
Vegetables, Canned.....	9			1		7	1	1	5	17
Vegetables, Dried.....	42				2				1	44
Vegetables, Fresh.....	1			3	1	1	3	1	2	6
Vinegar.....	6	62			2	11			13	81
Water.....		1		1				1		2
Miscellaneous.....	64	45		5	4	8	1	3	15	126
Grand Totals.....	3,273	4,729	9	467	2,236	2,063	76	83	1,571	12,777

## DIVISION OF NARCOTIC CONTROL

### *General*

As has been normal during the post-war period Canadian narcotic authorities experienced no difficulty in maintaining adequate supplies of narcotic medication in the country during the year. Licensed dealers kept the department advised of their routine requirements as also their anticipated needs. Canada does not produce nor manufacture basic narcotic supplies and, therefore, all requirements of this nature must be anticipated and imported in advance of requirements.

In February 1955 a special committee of the Senate to enquire into and report upon the traffic in narcotic drugs in Canada and problems related thereto was appointed. This committee did very extensive research into the illicit traffic problem in Canada and as a result of this research there is currently before the Federal legislative bodies further revision of the Opium and Narcotic Drug Act. Heroin has not been imported into Canada since the 1st of January 1955. Yet there appears to be no difficulty experienced by the addict population in securing adequate supplies through strictly illicit channels.

### *Domestic Trade*

There were 162 firms licensed as narcotic dealers during the calendar year 1956. Licences of varying types depending on the type and extent of the operations of the individual firms were issued and each new applicant for a licence was carefully screened to insure that narcotic medication would be properly handled by qualified personnel and that adequate security measures in respect to the safety of stocks of narcotic medication were available at each dealer's premises. During the year, 131 licences to import narcotics and 61 licences to export were issued.

The usual careful scrutiny of the sale and dispersal to authorized purchasers of narcotic products by licensed dealers was maintained by the Division. Individual purchase records involving well over 35,000 physicians, pharmacists, dentists, veterinary surgeons, hospitals and institutions of like nature made it possible to retain the effective control we now have over narcotic medication in Canada.

Information in respect to the estimated consumption of the various drugs coming within the administrative orbit of the Opium and Narcotic Drug Act during the calendar year as well as total quantities imported in the period appears on pages 30 and 31.

Seven pharmacist-auditors who form the inspectional staff of the Division, during the year audited narcotic stocks and records at 124 licensed dealers' premises, inspected 784 hospitals and 3,253 pharmacies and in addition made 225 special investigations having to do with narcotic problems.

### *Supervision Maintained Over Retail Pharmacies*

The inspectional staff continued to uncover a number of minor discrepancies in the manner of keeping records at the retail pharmacies inspected.

The division is obtaining reports of narcotic sales from retail pharmacies at the rate of about 1,000 a month. It is felt that this work is most worthwhile inasmuch as the information obtained from processing these reports allows us to detect, and in many cases correct, a narcotic situation which, if allowed to continue, might become very difficult to adjust.

### ***Liaison with Medical, Pharmaceutical and Nursing Professions***

As in former years the Division received splendid co-operation from all of the provincial registrars of medical, pharmaceutical and nursing colleges and associations. Lectures were given to graduating classes of pharmacy and medicine at various universities in Canada as well as nursing schools. New proposals with regard to the amendment of the Opium and Narcotic Drug Act were discussed with the medical and pharmaceutical associations of the provinces and also with a special committee of the Canadian Medical Association. A series of lectures was also given to prison guards attending training courses at Calderwood Staff Training College, Kingston.

Through the years the addiction properties of the new synthetic narcotic drugs were brought to the attention of many physicians by means of correspondence.

### ***Convictions***

As previously indicated there was no difficulty on the part of the addict population in securing supplies of illicit heroin to satisfy their requirements. Indeed it would appear that until a much higher standard of control both nationally and internationally is instituted successfully the combating of this flow of illicit heroin into the country will be difficult if not impossible to achieve.

As previously stated 365 convictions involved heroin. Of the remainder two cases involved morphine, 13 marihuana, one codeine and four poppy heads. The synthetic drug Pethidine was involved in three cases and Methadone two. One case involved an alleged drug.

The nationality of those convicted of narcotic offences in the year concerned was as follows: one Hungarian and 378 British, American and Canadian. It should be pointed out here that of the total convictions, 12 individuals were sentenced twice during the year in question for offences under the Act.

As to sentences the following table will serve as an indication of the type of sentences awarded:

Six months to less than two years.....	274
Two years to less than five years.....	88
Five years to less than seven years.....	9
Seven years to fourteen years.....	20

A summary of convictions statistics appears on page 32.

### ***International Co-operation***

All reports required by the United Nations Narcotic Commission as well as information in respect to narcotic control were submitted. Moreover, several reports of significant seizures were forwarded to the U.N. Secretariat for information.

Narcotic authorities of our main sources of supply, that is to say United States, Great Britain, India, Holland, France and Germany extended every courtesy and consideration to requests made by this department. This liaison was largely responsible for the fact that adequate supplies of narcotic materials were readily available to meet the medical and scientific needs of the country during 1956.

TABLE 4  
ESTIMATED CONSUMPTION OF THE MAIN NARCOTICS  
(For the period 1947-1956 inclusive)

Unit of Weight—Kilogramme (Pure)

Year	Raw Opium	Medi- cinal Opium and Preps.	Papav- erine	Mor- phine	Heroin	Hydro- mor- phine	Codaine	Ethyl- morphine	Phol- codeine	Cocaine	Alpha- prodine	Levor- phanol	Metha- done	Pethi- dine
1947.....	111.472	134.209	20.270	87.601	24.976	0.425	1034.321	31.383	.....	39.406	.....	.....	.....	167.095
1948.....	59.251	170.837	40.143	87.148	28.208	0.624	1124.701	29.257	.....	39.888	.....	.....	.....	159.951
1949.....	56.983	102.230	38.528	77.055	25.458	0.454	1259.959	26.904	.....	33.935	.....	.....	10.915	194.254
1950.....	66.055	152.380	46.267	74.079	28.350	0.454	1292.250	31.270	.....	39.888	.....	.....	11.255	206.104
1951.....	57.267	161.397	38.613	71.584	26.309	0.425	1598.486	44.254	.....	36.004	.....	.....	12.871	232.769
1952.....	57.975	167.974	57.984	71.980	22.000	0.567	1795.831	21.971	.....	37.989	.....	0.822	11.000	285.966
1953.....	21.603	142.771	47.940	76.318	23.474	0.595	1508.192	44.850	0.227	40.030	0.822	0.964*	8.845*	298.015*
1954.....	51.568	158.023	73.937	70.024	28.123	0.085	1819.701	16.812	5.670	33.198	3.147	0.368	10.858	335.324
1955.....	20.950	112.294	71.754	49.329	12.616 <sup>(a)</sup>	0.425	2286.994	31.780	4.649	35.693	4.111	0.624	5.953	372.434
1956.....	28.306	185.820	97.995	50.402	6.158	0.390	1885.903	28.835	6.358	34.507	3.262	0.478	7.530	478.143

\* Pure Drug figure utilized since 1953.

(a) Imports of heroin banned as of 1st January, 1955.

HDA. February 8, 1957

TABLE 5  
IMPORTS OF MAIN NARCOTICS  
(For the period 1947-1956 inclusive)

Unit of Weight Kilogramme—(Pure)

Year	Raw Opium	Medi- cinal Opium and Preps.	Papav- erine	Mor- phine	Hydro- codone	Hydro- mor- phine	Ethyl- mor- phine	Codone	Phol- codone	Cocaine	Alpha- prodine	Lever- phanol	Metha- done	Pethi- dine
1947.....	95.256	183.084	27.244	29.654	0.595	0.510	21.121	1046.540	.....	61.491	.....	.....	.....	255.660
1948.....	90.720	86.184	79.635	85.418	2.636	0.737	26.054	965.544	.....	28.151	.....	.....	25.288	146.711
1949.....	48.722	90.776	26.734	89.813	3.161	0.312	40.625	1070.240	.....	18.881	.....	.....	30.278	116.405
1950.....	45.615	113.400	36.628	66.254	4.649	0.595	34.218	2644.176	.....	38.102	.....	.....	2.608	155.358
1951.....	54.658	125.392	47.401	87.104	8.675	0.482	31.128	1056.718	.....	29.852	.....	.....	2.069	260.508
1952.....	1.502	147.420	43.035	33.254	6.407	0.425	39.775	1647.078	.....	31.808	.....	.....	9.327	349.924
1953.....	49.442	106.823	43.659	78.246	5.018	0.368	31.411	1153.335	0.595	49.612	2.636	0.793	5.897*	323.449*
1954.....	5.897	149.688	84.936	60.499	17.775	0.198	39.378	2814.390	17.775	48.308	1.587	0.567	9.185	592.061
1955.....	31.525	149.688	86.836	52.192	5.301	0.425	24.182	2396.624	5.698	29.597	6.548	0.567	9.554	430.665
1956.....	17.236	145.350	87.448	47.332	13.012	0.471	55.291	1893.242	2.602	32.865	2.464	0.338	3.911	323.104

\* Pure Drug figure utilized since 1953.

HDA. February 11, 1957.



TABLE 6  
CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT  
(During the Calendar Year 1956)

Province	NATURE OF OFFENCE					DRUGS INVOLVED								
	Illegal Possession	Traffic- ing	Selling 4 (1) (F) (Old Act)	Possession for the purpose of Trafficking	Total	Heroin	Mor- phine	Mari- huana	Codeine	Deme- rol	Metha- done	Poppy- Heads	Alleged Drug	Total
Newfoundland.....														
Prince Edward Island.....														
Nova Scotia.....	1				1		1							1
New Brunswick.....														
Quebec.....	8	3	1	2	14	2		9	1	1	1			14
Ontario.....	111	6		10	127	121	1	2		1	1		1	127
Manitoba.....	14			3	17	17								17
Saskatchewan.....	1				1							1		1
Alberta.....	3	1			4	1						3		4
British Columbia.....	211	4		12	227	224		2		1				227
Total.....	349	14	1	27	391	365	2	13	1	3	2	4	1	391

(Of the above there were 3 males and 2 females in Ontario, 4 males and 3 females in British Columbia who had two convictions.)

HDA, February 14, 1957.

# HEALTH SERVICES DIRECTORATE

## CONSULTANT SERVICES

### BLINDNESS CONTROL

An educational program for the preservation of vision by means of pamphlets, magazine articles, radio scripts and motion pictures was carried on by the Blindness Control Division. One pamphlet was issued concerning defective hearing in children. In general the Division's work was concerned with medical administration of the Blind Persons' Act, co-operating with the provinces in the administration of the joint federal-provincial treatment scheme, advising the National Health Grants Administration with regard to projects for glaucoma clinics and eye research, and advising provincial officials on problems of vision.

#### *Treatment Scheme*

The treatment scheme for recipients of blindness allowance was initiated by the Division in 1948 as an experiment. It was made permanent in 1952. Nine provinces agreed to participate and seven are participating. Treatment is authorized and administered provincially after consultation, in each case, with the Division. The federal government reimburses the provinces for 75 per cent of the cost of cases approved for treatment. In the past year 54 cases were treated and 44 had vision restored. Since the scheme was inaugurated, 339 cases have been treated with 254 successes, as follows:

<i>Province</i>	<i>Successful</i>	<i>Unsuccessful</i>	<i>Total</i>
Nova Scotia .....	11	9	20
New Brunswick .....	52	16	68
Quebec .....	134	45	179
Ontario .....	50	11	61
Newfoundland .....	1	1	2
Manitoba .....	5	2	7
Saskatchewan .....	1	1	2
Total .....	254	85	239

#### *Glaucoma*

The greatest single cause of blindness is cataract (25 per cent), a large majority of which can be removed by operations, with restoration of vision. Glaucoma, which causes 13 per cent of blindness, is more serious, as vision, once lost, cannot be restored. If the disease is diagnosed early, blindness can be prevented in a majority of cases and further vision loss can be delayed for years. Glaucoma is the most serious eye problem as there are no early symptoms in the common chronic type of the disease. Only a medical eye specialist can diagnose early cases. It is common after age 40, and with proper examination can be diagnosed before any defects in vision are noticed by the patient. Eight glaucoma clinics have been set up since 1950 under the National Health Grants program.

They are located at Saint John, N.B., Quebec City, Montreal (2 clinics), Toronto, London, Ottawa and Vancouver. An additional clinic is expected in Winnipeg in 1957. These clinics are preventing blindness in hundreds of cases of glaucoma.

### **Eye Research**

Research under the Health Grants program is being conducted at Toronto, in the Toronto General Hospital, Hospital for Sick Children and the Banting Institute. The research is concerned with virus eye disease, uveitis, panophthalmitis and corneal transplantation. A research eye bank has been set up at the Banting Institute in association with a general eye bank sponsored by the C.N.I.B. Other eye banks not financed by health grants are being organized elsewhere. At the University of Ottawa, research under a health grant has been conducted during the past year on lens transplantation and the effects of drugs on eye muscles and nerves.

Donor eye material for corneal transplantation is usually obtained from recently deceased persons. Certain technical and legal difficulties make a well-organized plan for securing donor eyes necessary. Such plans, while partially successful in the U.S.A. are not common in Canada and corneal transplantation has thus been greatly hampered in this country. Research at Toronto is now directed toward finding means of preserving donor corneas.

## **CHILD AND MATERNAL HEALTH**

The Division had as its objective the promotion of optimum health for mothers and children, a segment of the population made up of almost a million mothers with new babies annually, and 4,500,000 children under 15 years of age. The program of the Division was predominantly advisory in nature, designed to assist in a variety of ways the development of comprehensive health services for mothers and children by:

- (1) Providing medical and nursing consultation to provincial health departments and other health agencies in the assessment of present facilities and services and in planning new programs;
- (2) Assisting the Health Grants Administration in the review and evaluation of health grant projects concerned with services for mothers and children;
- (3) Developing educational materials for the use of both lay and professional groups;
- (4) Stimulating research on health problems of mothers and children.

### **National Health Grants**

The Division provided regular consultation to the Health Grants Administration regarding the utilization of child and maternal health and crippled children funds particularly. Further improvements and extensions of maternal and child health services on the provincial and local levels were assisted by these funds. In the year under review one provincial child health division was extended by the addition of a consultant in obstetrics and a consultant nurse. This was a manifestation of the growing appreciation of the important contribution which specially trained nurse consultants can make in this field.

The funds of the Crippled Children Grant continued to be used for the diagnosis and treatment of children with disabilities of muscular function. A significant proportion of the funds was spent for the care of cerebral palsied children. Children with other disabilities, including cleft palate, also received attention.

Through a short course in nursing care of the newborn infant, organized by a university school of nursing, graduate training was made available to nurses from general hospitals in one province. Over a two-year period this assistance in training was provided for all hospitals. It was accompanied by the provision of technical equipment needed to improve newborn care. Other provinces continued to provide assistance in training through institutes and individual training projects as requested. Assistance was provided for the establishment of a hospital course in newborn care for French-speaking nurses.

There was an increase in the research supported. Emphasis continued to be placed on the investigation of problems of maternal and newborn health under the Child and Maternal Health Grant. One province supported research on genetic factors in cleft palate, the management of elbow fractures, and interceptive orthodontic procedures under the Crippled Children Grant.

### **Consultation to Provinces**

During the year, eight provinces were visited by the chief of the Division and ten provinces by the nursing consultant. During these visits discussions took place with provincial and local health authorities. A particular effort was made to visit medical schools and university schools of nursing. One of the main objectives of these contacts was, as always, to discuss projects receiving grant assistance and to interpret further to health workers the field of utilization of these funds.

### **Educational Materials**

The development of educational materials continued to be one of the most important fields of activity. Three new pieces of material which became available during the year were well received. They were the manual for nurses, *Education for Expectant Parents*, and two pamphlets, *Before Baby's Born* and *What to Eat Before Baby's Born*. Two pamphlets, *The Sick Child at Home*, and *Posture and Relaxation*, were in preparation, as well as a series of posters on accident hazards to children. Other materials such as *The Canadian Mother and Child*, and the manual, *Care of the Premature Infant*, were in constant demand.

### **Other Activities**

During the year the chief of the Division had a unique opportunity to visit Europe and to study health services for mothers and children in Britain and the Scandinavian countries. A report on this trip was prepared, as well as several articles for professional journals. She was also a participant in a panel discussion on perinatal mortality at the annual meeting of the Canadian Public Health Association.

The nursing consultant on invitation gave a series of lectures on maternal and child health to the Ottawa University School of Nursing and had other contacts with such institutions to interpret the role of the Division to nurses receiving graduate training.

Every effort was made to maintain liaison with professional organizations by participation in activities, attendance at annual meetings and other means.



### **Indices of Progress**

Reductions in maternal and infant mortality rates are widely recognized as valuable reflections of the general level of maternal and child care. The prevention of needless maternal and infant deaths remains a basic objective in all maternal and child health programs.

### **Maternal Deaths**

In 1955 there were 335 deaths of mothers in Canada. This represented a rate of .8 deaths per 1,000 live births. In 1945 there were 660 deaths in nine provinces and a rate of 2.3 deaths per 1,000 live births.

There was considerable variation in rates among provinces in 1955, the highest rate being 2.0 and the lowest 0.4.

#### **MAJOR CAUSES OF MATERNAL DEATHS, 1955**

	<i>No.</i>	<i>Percent</i>
Toxaemia .....	108	32
Haemorrhage .....	83	25
Sepsis .....	52	16
Prolonged Labor, Disproportion and other trauma .....	27	8
Others .....	65	19
<b>Total .....</b>	<b>335</b>	<b>100%</b>

Obviously good maternity care is not being received by all mothers who need it. Many of these maternal deaths are preventable. Through adequate prenatal care, with facilities for laboratory tests, cases of toxaemia of pregnancy should be discovered in the early stages when treatment can prevent a serious outcome. Better hospital facilities with transfusion services can contribute greatly to a reduction in deaths from complications at delivery, such as haemorrhage.

Although there are few accurate statistics available on maternal illness which does not result in death, the association between maternal complications and complications in the newborn infant is well recognized. Improvement in services to mothers can be expected to result in a reduction in stillbirths and neonatal deaths as well as maternal deaths. There would appear to be two necessary steps. One is to improve facilities for maternity care and the other is to ensure that mothers requiring care avail themselves of it.

### **Infant Deaths**

In 1955 there were 441,681 live births in Canada, a birth rate of 28.4 per 1,000 population. There were 13,767 infants who died in their first year, an infant mortality rate of 31 per 1,000 live births. The rate ten years ago was 51. There was considerable variation in infant mortality rates among the provinces—the highest rate being 37 and the lowest 21. Canada has obviously shared in the world wide improvement in infant mortality. We have cause for concern, however, since many other countries with no higher standards of living save more infant lives. In 1955, eleven countries had rates under 31.

As deaths in the first year decrease, deaths in the first month of life, or neonatal deaths, make up a larger proportion of the total. In 1955, 8,498 deaths, or 62%, occurred in the first month of life.



If to 8,498 newborn deaths are added 6,902 stillbirths, the total of 15,400 Canadian infant lives lost before one month of age is formidable. The size of the problem is further illustrated by the fact that in 1955 this number of deaths was exceeded only by deaths at all ages from malignant disease, heart disease and cerebral accident.

#### MAJOR CAUSES OF INFANT DEATHS, 1955

	No.	Percent
Lower respiratory infection .....	2,358	17
Congenital malformation .....	2,165	16
Immaturity .....	1,979	14
(as contributory factor 2,741)		
Asphyxia and atelectasis.....	1,594	12
Injury at birth .....	1,426	10
Gastro-intestinal infection .....	632	5
Others .....	3,613	26
Total .....	13,767	100%

Respiratory infections remained the leading cause of death in infancy, while gastro-intestinal infections contributed significantly to the total. It is seen, too, that immaturity or prematurity was an important cause of death, as well as being a contributory factor in babies dying of other causes. Of all infant deaths one third occurred in premature infants under one month of age. This underlines the importance of the care of newborn infants in hospital, since 85% of infants are now born there. It is clear that reductions in maternal and infant mortality are urgent health problems which require the co-operative efforts of physicians, hospital services and public health workers for their solution.

#### DENTAL HEALTH

All the activities of the Dental Health Division are directed towards the preservation of oral health and function through the prevention, early diagnosis and treatment of tooth decay, malocclusion, periodontal disease and oral cancer. The progressively destructive nature of tooth decay, its accumulation as new teeth erupt and are attacked, the early onset of periodontal disease, and the relationship of dento-facial abnormalities to the growth pattern of the face and jaws dictates the systematic use of preventive and corrective procedures at the earliest possible age. Therefore, the efforts of the Division are devoted primarily to the oral health care of children.

The fact that diet, nutrition and oral cleanliness are of primary importance in the preservation of oral health and are under the control of the individual and his family group, has led the Division to encourage oral health education. When the Division was created in 1946 there was little available, from any source, in the way of good, scientifically sound, oral health materials in the form of folders, posters, films and filmstrips for use in the schools and by health units. The Division recognized the existence of this vacuum, and with the help of Information Services Division, set about designing and producing materials for use chiefly by elementary schools. The demand for our materials is constantly increasing. This year, 360,435 items were distributed in English and French. This fell far short of meeting the demand. A film in both English and French, dealing with the subject of malocclu-

sion in children, was produced this year with technical assistance and advice from the Orthodontic Section of the Canadian Dental Association. Another extensive piece of work begun this year, but not yet completed, is a revision of the *Dental Health Manual*, the first edition of which was produced in 1951.

### **Articles Published and Meetings Addressed**

A scientific article on water fluoridation was published in the *Journal of the Canadian Dental Association* (April, 1956) Vol. 22:4: p. 207. An article on Civil Defence was published in the *Journal of the Canadian Dental Association* (May, 1956) Vol. 22:5: p. 288 and another in the *Canadian Services Medical Journal*. Also an article on the development of dental public health in Canada was written for the departmental magazine, *Canada's Health and Welfare*, January, 1957.

The major organizations addressed by members of the Division during the year were the Canadian Public Health Association and the British Columbia Health Conference. Two presentations were contributed to courses given at the Civil Defence College at Arnprior. In addition several smaller meetings, some of dentists and others of lay people, were addressed on dental subjects ranging from water fluoridation to dental care programs.

### **Health Grants**

The health grants have given rise to oral health programs in every province. These vary widely in nature. Some are purely health education, others are entirely treatment, and some involve topical applications of sodium fluoride. They all have two things in common: they are limited to children, and they owe their origin and continuance to the federal health grants. Grant-aided projects in eight of the provinces were visited this year and reported upon.

### **Research**

The study of water fluoridation which was begun by this Division in 1946 was continued this year, with assistance from the Research and Statistics Division. About 5,000 children were examined in the three cities of Brantford, Stratford and Sarnia. By June of 1957, Brantford will have been adding one part per million of fluoride to its water supply continuously for a period of 12 years. Stratford by that time will have been consuming continuously for 40 years a water supply containing 1.6 parts per million of fluoride. The water supply of Sarnia has a negligible fluoride content. The data from this year's survey will be statistically examined by the Research and Statistics Division, as in the past, and a report issued in the early fall of 1957.

A new study of the topical use of stannous fluoride to prevent tooth decay was begun this year. Nine hundred Ottawa school children are involved in this investigation. A report will be issued after a two-year trial.

### **Other Activities**

Scientific and other meetings closely related to the functions of the Division have been attended and reported upon in the Division, with a view to keeping its members abreast of significant developments.

The business meeting of the Canadian Dental Association was attended and advice and assistance given to the Association in drafting a statement of policy for the dental profession in the field of public health. Liaison is maintained with the Public Health Committee, Health Insurance Studies Committee and the

Research Committee of that Association. Also the Division is represented on the Associate Committee on Dental Research of the National Research Council, which holds an annual two-day meeting for the purpose of assessing progress being made in dental research projects carried on with the aid of Research Council Grants, and for the purpose of awarding grants for new or continuing projects.

### **Consultant Services**

Consultant services have been provided for the Food and Drug Divisions, the Indian and Northern Health Services Directorate, and for Health Grants Administration.

## **HOSPITAL DESIGN DIVISION**

This Division is a consulting service to provincial health departments and to those concerned with the planning and operation of hospitals. It co-operates with the provinces in their efforts to promote sound planning for health institutions of all types.

Plans of every hospital requesting assistance under the Hospital Construction Grant in the National Health Program are studied to see that they conform to minimum standards of hospital construction as prepared by this Division. These plans are also studied to determine the amount of federal assistance payable under the terms of the grant.

### **Consultations**

The provinces, and also a number of architectural firms, forward drawings to this Division during their preliminary stage for criticism and consultation prior to submitting a formal request for federal assistance. The advantages of this procedure are that the plans can be easily altered at an early stage in their development. This Division produced alternate plans which have been adopted wholly or in part, for many hospital projects during the past year.

Because of the limited number of personnel, it is not possible for this Division to undertake at this time research planning projects which would provide information for those concerned with the planning of hospitals and allied construction.

### **Hospital Construction Grant**

Since the inception of the Hospital Construction Grant in 1948 more than \$85,350,000 have been allocated toward the construction of space for more than 64,500 patient beds of all types, 8,115 bassinets and 11,442 nurses' beds. Grants have also been approved for community health facilities (which include such areas in hospitals as out-patient departments, radiology, laboratories, emergency, pharmacies, dispensaries and remedial therapy) and for training facilities for health and hospital personnel. The problem of approval becomes more complicated yearly as hospitals often return three or four times for additional grants, as well as submitting numerous amendments to those projects already approved. It is necessary to review the complete developments to ensure that a duplication of assistance does not occur or that a hospital receives all it is entitled to under the terms of the Order-in-Council.

The problem of obsolete facilities in hospitals is being studied. It becomes of increasing importance, now that the acute shortage of active treatment beds which existed in 1948 has been met, although there will be a continuing demand

for new beds due to increases in population and the re-location of hospitals to cope with a shifting population. There is still a shortage of beds for the mentally and the chronically ill.

Conferences on hospital planning and problems pertaining to the Hospital Construction Grant were held with provincial health authorities of Nova Scotia, Ontario, Quebec, Manitoba and Newfoundland.

### **Other Activities**

During the past year the chief of the Division gave papers on various subjects relating to hospital planning to the Maritime Hospital Association. He also lectured for a day to the students attending the course for hospital administrators at the University of Toronto, and gave talks at the summer session course on Hospital Organization and Management of the Canadian Hospital Association. He continued to act in a consulting capacity for hospital planning of the armed forces and is a member of the National Defence Hospital Requirements Committee, and also is chairman of the C.S.A. Committee on Safety Code for Hospital Hazards and a member of the Standard Drawing Practices Committee of National Research Council.

## **MENTAL HEALTH**

During the year the Mental Health Division continued its program of assisting the provinces in the expansion and improvement of their mental health services. A continuous evaluation of the requirements for mental health services in Canada was maintained and the Division, in co-operation with the provincial mental health services and university departments of psychiatry, has attempted to promote those programs most likely to lead to an improvement in the treatment services provided for the care of the mentally ill.

### **Mental Health Grant**

Total expenditures exceeded \$6,340,000 which was considerably higher than the total expended during 1955-56. A year ago reference was made to changing principles with regard to meeting mental health needs and adaptation to these changes was reflected by increased expenditures during the past fiscal year. Allocations for mental health divisions increased to about \$225,000 which reflects increased interest in the provision of more adequate consultation services for the provincial programs. Allocations for mental hospital services increased to \$3½ million from \$3,100,000; community mental health clinics increased from \$777,000 to \$834,000. Psychiatric services in general hospitals increased to \$951,000 from \$832,000.

There was a very slight increase in the amount allocated for training programs while the amount allocated for bursaries decreased from \$487,000 to \$450,000. This decrease in the amount allocated for bursaries is not a reflection of a decreased need for the training of additional personnel in the mental health field, but rather reflects a failure to recruit sufficient personnel to meet the need. Further efforts will have to be made in this area as it is becoming apparent that the continuing shortage of qualified professional personnel is one of the critical aspects of mental health programs in this country. The amount allocated for research under the Mental Health Grant increased to \$611,000 from \$589,000 and in general there was very little change in the research program.



### Consultant Services

One of the important aspects of the Division's work has been the provision of consultant services to the provinces, to other divisions of the Department of National Health and Welfare and to other federal government departments. Such consultant services are regularly provided to Medical Rehabilitation and Disability Advisory Services, Immigration Medical Services, Information Services Division, Civil Defence, Narcotic Control Division, Hospital Design Division, Indian Health Services and the Dominion Bureau of Statistics. In addition, the Mental Health Division has made personnel available to provinces and municipalities for discussions on research design, employment policies, training of personnel and other related topics. That provision of such aid is welcome is attested by the steadily rising number of requests forwarded to the Division. Important contacts with mental health personnel were maintained by attendance of the consultants and the principal medical officer at meetings of professional associations and visits to many of the mental health facilities throughout Canada.

The Division consists of a small but highly trained professional staff. The principal medical officer, a psychiatrist, directs the work of the consultants; a statistics and research advisor, a technical officer, a consultant in social work and a consultant in psychology. These latter two positions were established this year and are held by Miss Jean Dorgan and Dr. Herbert Dorken, respectively.

By correspondence and personal contact the principal medical officer keeps abreast of mental health progress in the provincial services and the various associations in Canada in this field. The consultants assist him in implementing the Division's program and ensuring that recommendations for utilization of the Mental Health Grant will be in the best interests of the services, training and research supported as well as the professions involved. In addition, a public information program, designed to meet the needs of the provinces, has been developed.

Publications and presentations by the Division last year included:

*Driver Behavior as Reviewed by a Psychiatrist*

Canadian Safety Conference (Quebec);

*The Community and Mental Retardation*

Association for the Help of Retarded Children (Quebec);

*Sex Differences in Children*

Report Series #2, Mental Health Division,  
Department of National Health and Welfare;

*Opportunities for Psychologists in the Mental Health Field*

Recruitment Series, Mental Health Division,  
Department of National Health and Welfare;

*Psychology and Mental Health: Training and Professional Problems*

(University of Ottawa);

*Canada's Mental Health*

A national monthly for professional distribution,  
Mental Health Division,  
Department of National Health and Welfare;

*Illness—How Can I Help My Child*

Child Training Series, Mental Health Division,  
Department of National Health and Welfare;



*Play and Playmates*

Child Training Series, Mental Health Division,  
Department of National Health and Welfare;

*School Mental Health Services*

Filmstrip, Mental Health Division,  
Department of National Health and Welfare;

*Day Hospitals*

Can. Serv. Med. J. 12: 295-300, 1956;

*Services for Emotionally Disturbed Children and Adolescents in Canada*

Mental Health Division, Department of National Health and Welfare.

**Advisory Committee on Mental Health**

The ninth meeting of this committee was held in Ottawa at the Department of National Health and Welfare during November 1956. The provincial directors of mental health and a number of the professors of psychiatry in Canada or their representatives were present. Also represented were the Canadian Mental Health Association, the Department of National Defence, the Department of Veterans Affairs, Department of Justice, and the Dominion Bureau of Statistics.

Opening remarks by the Deputy Minister of Health stressed that the Division existed to assist the provinces in the development of their programs. Considerable attention was given to the shortage of, and the need to increase, professional personnel in the mental health field. Subcommittee reports on statistics, research, public education and nursing education were presented. Other topics of intensive discussion included the Mental Health Grant, psychiatric patients in general hospitals, tranquilizing drugs, alcoholism, open mental hospitals and psychiatric participation in rehabilitation.

**NUTRITION DIVISION**

This Division endeavors to determine the extent of nutrition problems in Canada and to promote, maintain and improve the health of the population by advocating sound nutrition practices.

To reach these objectives, the Division continues its program of research, consultation, education and information.

The greatest portion of the federal nutrition program is conducted through and with provincial health departments. In addition, technical and consultant service is given to other divisions, departments, national and international organizations.

**Research and Surveys**

The dietary phase of a nutrition survey was planned and carried out in two counties in New Brunswick with the co-operation of the provincial health department. The clinical and biochemical aspects were commenced towards the end of the fiscal year. The chief and biochemist conducted clinical and biochemical studies in two areas in Saskatchewan, at the request of the province. It is expected that results from these studies will be used by local and provincial health authorities as a foundation on which to build nutrition education programs.

In response to requests from provincial nutritionists, a method for conducting short surveys on food habits for use in classrooms was developed and is now in use in some provinces.

As an outcome of a meeting of the Canadian Council on Nutrition, a system for collecting reports of food analyses from research laboratories was set up. This information will be needed for the next revision of the Table of Food Values Recommended For Use in Canada.

Research nutritionists completed work on a revision of the weighted nutrient conversion factors used in calculating the nutrient value of foods consumed in Canada.

Work continued on the interpretation of data obtained on the weight-height survey conducted by the Division a few years ago.

The study begun in 1949 on members of a large family for a possible relationship between nutrition and blindness from Leber's optic atrophy, was altered in August 1956 in accordance with the recommendation of a departmental committee that it should be reduced to record keeping in the Blindness Control Division. A report and summary of the findings to date is now being prepared.

Meat pies were prepared in the experimental kitchen at the request of the Food and Drug Directorate under a great variety of known conditions, and useful information was thus obtained on which standards and control work can be developed, with respect to size, amount of meat, etc. Fresh, canned, frozen and dried fruits and vegetables were weighed and measured to determine the number of servings per pound, package or tin.

### **Laboratory Services**

As a result of the new simplified method of collecting and shipping blood samples developed in 1956, the service to physicians and hospitals, whereby analyses of certain nutrient factors in blood and urine samples are performed free of charge, was in great demand. Several thousand blood and urine samples were analyzed for constituents of nutritional significance. Those requesting this service were chiefly officers of Indian Health Services, several provincial laboratories and private groups.

### **Consultant Services**

Professional staff assisted in planning and carrying out a Welfare Emergency Feeding Course at the Canadian Civil Defence College, Arnprior. At the request of the college, rotating menus for a four-week period were evaluated. The chief of the Division gave clinical examinations to federal civil servants referred to him by nursing counsellors because of possible nutritional problems. Chemical analyses were also done and a nutritionist interviewed the civil servants about their food habits. Advice was given on kitchen plans for Indian hospitals at Whitehorse and Aklavik. Assistance was given on kitchen floor plans for the hospital at Chilliwack, B.C. Review of projects, and other assistance has been given to the Health Grants Program. Collaboration continued with other divisions in preparation of pamphlets, radio scripts and other educational materials in which nutrition was included.

### **Other Departments**

Work was started on a ration list, which it is hoped can be used as a guide in estimating the food grants to Indian Residential Schools. Arrangements were made whereby assistance can be given, as required, with examination of cooks for certification by the Department of Transport and with inspection of crew quarters, and catering arrangements on board ships. Advice was given on kitchen

floor plans for the R.C.M.P. Mess in Regina. Membership on interdepartmental committees concerned with health, food and agriculture occupied some of the time of the chief of the Division who also, at the request of the Food and Agriculture Organization, served on the FAO committee on calorie requirements meeting in Rome.

### **Provinces**

The New Brunswick and Nova Scotia health departments each submitted a set of school lunch recipes which are now being tested and standardized in the Division's experimental kitchen. This work is being extended so as to serve more fully the needs of hospital insurance in the future, when food services may be encouraged to make their full contribution to patient recovery.

### **Education and Information**

On the request of provincial health departments four provinces received assistance with courses and institutes. In New Brunswick a four-day refresher course was conducted for home economics teachers, dietitians and other professionally trained persons. A five-day course was held in Prince Edward Island for cooks from small institutions. A similar course of two weeks' duration was given in Saskatchewan. A reference manual to be used at the courses for cooks was prepared. A one-day nutrition institute for public health nurses was conducted in Newfoundland by a federal nutritionist in co-operation with the provincial health department. Assistance was given the Victorian Order of Nurses with their staff education program on nutrition.

For the fifth and last year the Nutrition Photograph Contest was held. Sixty entries were received. This five-year project aroused interest in the subject of nutrition and gave the Division a general idea of the types of programs being carried out in various schools, hospitals and clinics.

A fifth issue of the *Canadian Bulletin on Nutrition* was prepared. The entire issue was devoted to the topic "Recent Nutrition Surveys and Nutrition Education Programme in Cape Sable Island, Nova Scotia".

The monthly periodical, *Canadian Nutrition Notes*, in existence since October 1944, has a mailing list of 5,500 English and 1,800 French. A recurring check on the mailing list made in 1955-56 showed that the great majority of recipients still wanted the periodical. Many favorable comments on its usefulness were forwarded to the Division. Those booklets and posters which have been used and are still in demand by public health workers were revised and reprinted in amounts needed and permitted by budget in co-operation with Information Services Division. The system whereby provincial health personnel assist in submitting to the Division their views and suggestions regarding need and revision seems to be working well.

### **Advisory Committee**

One meeting of the Canadian Council on Nutrition was held. The Dominion Provincial Nutrition Committee of the Council also met and had one joint meeting with the Council. The subjects discussed at the Council included Civil Defence emergency feeding, agricultural conditions in Canada, the 1955 Conference of FAO, food and drug matters, specifically addition of lysine to bread and standardization of tomato juice.

## ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS

### MEDICAL REHABILITATION AND DISABILITY ADVISORY SERVICE

The Medical Rehabilitation and Disability Advisory Service was established in 1954 to provide consultative services in relation to medical rehabilitation and disability evaluation. During the year under review, there were changes in the general activities of the unit in keeping with changes in pace and emphasis in the development of programs to assist disabled persons.

#### *Medical Rehabilitation*

As provincial medical rehabilitation programs continued to expand during the year, the practice of consulting with the Medical Rehabilitation and Disability Advisory Service in relation to many of these developments became more firmly established. Overall utilization of the Medical Rehabilitation Grant increased over that of the previous year; and again followed a pattern of gradual systematic extension in most provinces. One of the chief objectives of the Medical Rehabilitation and Disability Advisory Service in co-operating in this development has been to ensure that maximum benefit be derived from individual projects through determining their relationship to and their practical and effective integration with overall provincial rehabilitation programs. The results of this work have been most satisfactory.

As comprehensive programs develop, the benefits of rehabilitation will become available to larger numbers of disabled persons. It is reasonable to expect, therefore, that the degree and duration of disability of a considerable proportion of the disabled in Canada, may be progressively reduced.

In addition to providing funds for the training of personnel such as physiatrists, physiotherapists, occupational therapists, speech therapists, medical social workers and prosthetists, grant funds have also been made available to assist in the establishment of schools of physiotherapy, occupational therapy and speech therapy.

The Medical Rehabilitation and Disability Advisory Service maintains liaison with other departments of the federal government, including the office of the National Co-ordinator, Civilian Rehabilitation, and the Vocational Training Branch of the Department of Labour, the Special Placements Division of the National Employment Service and the Department of Veterans Affairs, in matters of mutual interest.

Active participation was continued in the work of the National Advisory Committee on the Rehabilitation of Disabled Persons.

A survey study of medical rehabilitation facilities and services with recommendations for future development was conducted in one of the eastern provinces at the request of the provincial health authorities.

#### *Disabled Persons Allowances Programs*

The Medical Rehabilitation and Disability Advisory Service, directly, and through federal medical representatives in each province, co-operates with the provincial directors of disabled persons allowances in connection with the medical aspects of the disability allowances program. Nine provinces have now entered into agreements for the sharing of costs of special medical examinations authorized by federal and provincial medical representatives for the purpose of establishing eligibility under the Act.



Medical review boards in most provinces were successful in completing the backlog of applications which accumulated during the initial stages of the program and were able, during the year, to concern themselves with a relatively stable flow of new cases and annual reviews.

### **OCCUPATIONAL HEALTH DIVISION**

The protection of health and the promotion of sound health practices for workers is of primary importance to Canada's rapidly expanding industrial and commercial enterprise. To this end, the Occupational Health Division, functioning in an advisory and consultant capacity, provides a wide variety of services to provincial departments of health, other federal government departments and crown companies, the Armed Forces, commercial and industrial organizations, and many other interested groups and individuals throughout Canada.

For convenience, the services are categorically classified as clinical, laboratory, air pollution, radiation, and education and information.

#### ***Clinical Services***

The clinical staff received and dealt with many requests for information and assistance on occupational health problems including clinical aspects of toxic substances, occupational disease, environmental hazards and conditions, and they prepared material for presentation at courses, seminars and conferences.

Advice and assistance were provided to provincial health departments, industries, health agencies and other interested groups and individuals.

The role of the nursing consultant in occupational health is to interpret, promote and extend the nursing services within the framework of the policies and total planning of this Division. The nursing consultant has continued her activities in the educational area through conferences and institutes with nursing groups and in visits to industries upon request. In provinces which do not have consultants, assistance has been given directly to the provincial public health nursing personnel. Final arrangements were made for publication of a brochure, *Guide For The Preparation Of A Manual Of Policies And Procedures For The Professional Nurse In Occupational Health*.

#### ***Laboratory Services***

The research group is charged with conducting long-term research on problems of central interest in the field of occupational health. During the year a number of studies on the fundamental mode of action of certain chlorinated hydrocarbons and on problems of urban air pollution were carried out.

A dynamic gassing apparatus of new design was completed and became operational. It is being used in a study of possible synergistic effects that may be exhibited by constituents of polluted air. A long and extensive experimental program has been planned in which this new apparatus will play a very important role. In the course of a preliminary examination of nitrogen dioxide, a highly toxic gaseous pollutant, a special photometer was developed which provides a continuous instantaneous measure of the concentration of this gas in the exposure chamber.

A member of the research group began construction of a special apparatus for measurement of electrical conductance. The entire assembly is designed for making very precise conductivity measurements, one of the requirements of the physicochemical research activities of the group.



Members of the investigations group were engaged in a wide variety of surveys, and field and laboratory studies in relation to occupational health problems.

1. *Mercury Survey*—The mercury survey in the Department of Agriculture Seed Testing Laboratories was completed and the final report prepared.

2. *Survey for the Laboratory of Hygiene*—At the request of this Laboratory, a survey was made to determine some means of eliminating the steam in a sterilizer room produced through excess use of a sterilizer.

3. *Air Pollution Program*—Two air pollution recording stations were set up in two different locations in Ottawa. A record of air pollution levels has been maintained for almost a year.

4. *Dust Survey*—In November 1956, a dust survey was carried out in Newfoundland mines.

5. *Yellowknife Study*—Samples of water and vegetation were collected at Yellowknife, N.W.T., in connection with a continuing survey of arsenic hazards.

6. *Cannery Fumigation Study*—The senior officer of the Investigations Group assisted with a survey to determine levels of methyl bromide during and after fumigation of a British Columbia cannery to control the Oriental Fruit Moth. In this operation the first of its kind in Canada, the buildings were covered with plasticized nylon tents before fumigation.

7. *Laboratory Studies*—These included investigation of possible means of avoiding contamination by the collecting medium in the collection of large quantities of particulates, a continuation of studies of microchemical techniques for the identification of air pollutants, analysis of water samples for arsenic, analysis of urine samples to determine fluoride content, analysis of fall pan samples from air pollution stations, separation of high volume sampler collections into organic soluble, water soluble and water insoluble components prior to identification by X-ray diffraction, examination of the relationship between atmospheric sulphur dioxide, calcite and gypsum; a study of methods of fractionating air-borne particulates.

8. *Committee Membership and other Functions*—Membership is held on committees of Canadian Standards Associations, American Conference of Governmental Hygienists and other national and international organizations.

### **Atmospheric Pollution Consultant Services**

The consultant on atmospheric pollution was concerned chiefly with activities in connection with the following advisory and other services:

1. *International Joint Commission*—Preparation of reports for the Commission on studies carried out in 1955, including progress in abatement of pollution from Great Lakes vessels on the Detroit River, environmental studies of air pollution levels, and the effects on the health of sample populations within Greater Windsor and control areas.

2. *Advisory Services*—Advice was given on such problems as the pollution of air from operations involving emission of toxic and odoriferous compounds.

3. *Miscellaneous Activities*—These included a study of the establishment of standard techniques for methods of sampling, analysis and specifications for control of odours and gases.

4. *Committee Membership and Other Functions*—The consultant continued to hold membership on various committees, among them the Canadian Standards

Association Committee on Air Pollution Control, the American Chemical Society Committee on Atmospheric Pollution; he is chairman of a C.S.A. subcommittee on odours and gases, and vice-chairman of a committee on atmospheric sampling and analysis of the American Society for Testing Materials.

He was awarded the Plummer Medal of the Engineering Institute of Canada for his work on atmospheric pollution.

### ***Radiation Services***

Keeping pace with the growth and development of peaceful uses of atomic energy and the growing interest in the biological effects of radiation, the Radiation Services have dealt with increasing demands for guidance and greater needs for study of activities in the various radiation fields.

The Film Monitoring Service available to radiation workers throughout Canada, in its continued expansion, reflects the increasing awareness of the importance of radiation protection among these workers.

Radiation surveys of industrial, medical and research establishments were carried out with the assistance of the provincial health departments.

Pilot studies were done on X-ray machines in the offices of private physicians and on shoe-fitting fluoroscopes.

A survey of dental X-ray units in the Ottawa area was begun at the request of the Canadian Dental Association. The results of this survey, as well as being of immediate practical value in X-ray protection instruction to the dental practitioners, will be used in the broad survey of population radiation exposure studies now being planned at the international level.

The radiochemical analysis of fallout material, particularly Strontium 90, was continued. Biological materials were obtained for analysis from various parts of Canada. A laboratory designed for low level radiochemical procedures, was built in Ottawa.

In co-operation with the Research Division a study was begun on the feasibility of using vital records and statistics for investigating genetic trends in the population, with particular reference to the potential hazard of exposure to radiation.

Members of Radiation Services co-operated in an international investigation of a system to determine the population dose from the medical uses of radiation.

At the first annual Conference of the Canadian College of General Practice in March, 1957, the Radiation Services co-operated in providing a scientific exhibit on X-ray protection.

While the use of personal dosimeters, either in chambers or film monitoring devices, remains the best method thus far developed for recording radiation doses, a search continues for biological indicators to measure bodily effects of man's exposure to radiation, especially within the present maximum permissible dose. Such an indicator is the presence of lymphocytes with bi-lobed nuclei in the circulating blood. The work on this subject is being investigated with a view to initiating a similar study on a group of occupationally exposed persons in this country.

### ***Education and Technical Information Services***

The chief purpose of these services is to provide information on occupational health topics to medical, nursing, research and other interested groups in Canada.

The Division, in co-operation with Information Services Division, continued publication of its two periodicals, the *Occupational Health Review* and *Occupational Health Bulletin*. This year for the first time the *Review* was published quarterly instead of semi-annually.

In addition, a number of issues of the *News Letter* were prepared for distribution to provincial health departments. This is a service designed to keep the provinces informed about current clinical, nursing and research developments in Canada.

During the fiscal year, two new pamphlets, *Hazards of Solvents* and *Respiratory Protection*, were released.

One interesting development was the increase in the number of requests for information from schools, youth organizations, universities, nursing organizations, both in Canada and abroad, health educators and other government departments, particularly the Armed Forces.

Another feature designed to broaden the distribution of occupational health materials was the use of house organs and other outside publications as a better means of reaching specific groups. Publications for farmers, shoe manufacturers and fishermen were thus utilized during the year.

### **Staff Changes**

In June 1956, Dr. E. A. Watkinson, Chief of the Occupational Health Division, was promoted to Principal Medical Officer in charge of Environmental Health and Special Projects and in February 1957, Dr. T. H. Patterson, formerly Director, Division of Environmental Management, British Columbia Department of Health and Welfare, became the new Chief of the Occupational Health Division. In August 1956, Dr. A. J. deVilliers a medical officer from South Africa, filled the position of clinical consultant, which had been vacated by Dr. D. L. Henderson in March 1956.

A new medical officer, Dr. W. J. D. Cooke, joined the staff of the Division's Radiation Services. His work is concerned with the clinical aspects of radiation. Dr. P. J. Mar, a research biochemist, was taken on staff to assume charge of the Division's new radiochemical laboratory.

### **PUBLIC HEALTH ENGINEERING DIVISION**

During the past year the activities of the Public Health Engineering Division continued to reflect very significantly the broadening aspects of environmental sanitation and its complex problems. The application of engineering principles to the control of those forces and processes which affect our environment is becoming increasingly more important and complicated. Industrial and urban expansion has focused attention on the need for treatment facilities for both water and sewage, the restoration of natural water sources to a reasonable degree of purity and freedom of these waters from toxic and deleterious wastes. Problems of sanitation, water supply and sewage disposal in areas that are rapidly developing in the far north, where unmodified conventional methods of treatment are inadequate, have required increased attention and study. This is primarily due to the desire, in areas once thought remote, for a higher standard of living and more of the amenities enjoyed in the older and established communities to the south.

Responsibilities assigned by statutory authority to the Division on those phases of the environment having a bearing on the health of travellers, and of operating personnel of railways, vessels and aircraft, remain the same as other years.



Examination of sanitary conditions in camps on federal construction projects, and the enforcement of protective measures continued to form an important phase of the Division's activities and responsibilities.

During the year a branch office was opened at Regina, with a senior engineer placed in charge of all work in the district. Two new engineers were added to the staff and were assigned to the district offices at Edmonton, and Truro. One senior engineer was transferred to our Vancouver office. While these changes and distribution of staff have enabled more efficient performance of work in the areas concerned, the Division is still in need of additional engineering personnel. Due to continued lack of personnel in other areas, service to other departments has been given preference over other work where circumstances warranted. Routine examinations associated with statutory functions have continued but on a reduced scale.

In recent years some concern has been expressed over the quality and distribution of available sources of supply of water required for serving federal interests at Fort Churchill, Manitoba. The prospect of still further demands on existing water supply sources prompted the Division to initiate a study of these supplies on the basis of quality, flow limitations, maximum output, deterioration in chemical quality which occurs during the long winter storage period, and evaluation of other potential sources of water supply. The data collected were assembled in a detailed report and submitted to the various federal departments directly involved. This report has since become the basis of further study by a firm of engineering consultants.

### ***Co-operation with Other Federal Agencies***

The Division continued to maintain close liaison with other federal departments and other divisions within this Department. Of a large number of special projects, the following merit particular mention.

For the Department of Transport, water treatment studies were conducted at Port Hardy and Prince George airports in British Columbia. A study of the water supply system serving the Montreal airport was made after bacteriological findings showed evidence of contamination within the system. A survey of water quality aboard foreign air passenger carriers was conducted at Gander, Newfoundland.

In the Yukon and Northwest Territories a number of engineering studies on problems of waste disposal and water supply and sanitation were made at the request of the Department of Northern Affairs and National Resources. An appraisal of the water treatment facilities at Fort Smith was asked for with respect to the proposed enlargement of the existing facilities including certain changes in the waterworks distribution system in order to meet expected future demands. The Aklavik townsite development at East Three was again visited and the Division's interest has been maintained on those matters having public health significance. A sanitary survey of a number of settlements in the Yukon Territory formed part of the Division's activities during the past year.

Close co-operation was continued with the Indian Health Services Directorate of this Department and with Indian Affairs Branch of the Department of Citizenship and Immigration. Investigations were conducted with respect to problems of water supply and sewage disposal at Indian reserves, residential schools and Indian hospitals. The St. Lawrence Seaway construction project made necessary a complete sanitary survey of conditions throughout the Caughnawaga Indian Reserve.



The Division continued to render valuable assistance to the Department of National Defence on matters pertaining to water quality treatment, control procedures, and on sewage disposal problems. New and existing sewage plants were assessed with respect to adequacy of facilities provided, operational control, improvements requiring alterations and initial determination of the degree of sewage treatment required to meet local requirements and to protect downstream users.

The Division's interest in the extent of pollution of various water courses, due to industrial and urban development demanded increased attention. Several large-scale surveys were conducted which required the setting up of temporary laboratory facilities for chemical and bacteriological determinations. At the request of Dominion Arsenals Ltd., Cherrier Plant, an assessment was made of the degree of pollution present in the L'Assomption River above and below the village of St. Paul L'Ermite. Dominion Arsenals' raw water supply showed gross contamination.

As in other years close co-operation was maintained with the National Parks Branch, Department of Northern Affairs and National Resources including detailed studies, complete with preliminary plans, for the development of a satisfactory method of sewage treatment for two National Park townsites in Western Canada.

### ***Provincial Co-operation***

Through committees, health agencies, and direct assistance the Division maintained a close liaison with all provincial departments of health.

The engineering services of the Division were made available to the Province of Prince Edward Island following the resignation of the public health engineer. Thus on several occasions at the request of the Prince Edward Island Department of Health detailed studies were made involving disposal of industrial wastes by the lagoon method, the abatement of an offensive condition created through the inadequacy of dairy waste treatment facilities and treatment procedures required to eliminate contamination of a municipal water system. A review of the Town Planning Act and Regulations for the Province was made.

Services were also rendered in co-operation with the Provincial Sanitary Engineer for the Newfoundland Department of Health with respect to improvements in municipal water supplies, especially those used on international and interprovincial passenger carriers.

Two pollution problems involving federal and provincial interests were investigated. One concerned the alleged contamination of private wells from a Royal Canadian Air Force septic tank installation at St. Margarets Bay, N.S. and the other concerned the pollution of Granum water supply, a community in the Province of Alberta. This investigation was made jointly with the provincial authorities since sewage from the R.C.A.F. Station at Claresholm, and the town of Claresholm, Alberta was a contributing factor.

### ***International Joint Commission***

The Division with representation on various advisory boards to the International Joint Commission on Control of Water and Air Pollution participated in conferences held under their auspices. For the Lake Superior-Lake Huron-Lake Erie and the Lake Erie-Lake Ontario sections, where a well-developed pollution control program is in effect, field studies included river sampling, industrial surveys and chemical and bacteriological analysis required to evaluate the

effectiveness of the program. There were no reported occurrences of taste and odour disturbances in downstream municipal water supplies during the year. No major industrial spills of deleterious contaminants in significant proportions took place and the effectiveness of remedial measures provided by industries on the Canadian side is now being realized.

During the past year the engineers of this Division took an active part in the pollution study of the St. Croix River boundary waters now under reference to the International Joint Commission. The studies involved setting up a temporary laboratory at St. Andrews, New Brunswick to carry out chemical determinations of the degree of pollution present and the type and volume of wastes contributed from industrial and municipal sources. The report of the investigation and the findings are in process of preparation for submission to the Board of Technical Advisers appointed by the Commission.

### ***Public Works Health Act and Regulations***

The statutory responsibilities with respect to matters of accommodation, water supply, sewage disposal and sanitation of construction camps on federal projects formed an important part of the Division's activities. The re-examination of a number of radar warning stations at selected points throughout the far north provided an opportunity to assess the adequacy of methods, both old and new, used in the control and operation of the water and sanitation services. It also provided problems peculiar to the north. While conditions found at these construction projects did vary, the adherence to sound public health principles in respect to food handling and the protection of water supplies was for the most part satisfactory. No outbreaks of any water- or food-borne disease of any proportion have to date been reported. In addition 22 separate examinations were carried out under this Act principally for the Department of National Defence and in connection with certain railway extension programs.

### ***Shellfish Control***

Control of the shellfish industry continued to form an important phase of the Division's responsibilities in those provinces in which shellfish are produced commercially for export. Most of the past year's work on shellfish control was centred in the Province of New Brunswick. The findings were reported to the New Brunswick Department of Health and Social Services as recommended by the Dominion Council of Health. This was done in an effort to seek their co-operation in the prevention and elimination of pollution of waters overlying shellfish areas by sewage from municipal and other sources. A special engineering and bacteriological study of the shellfish producing areas of Antigonish Harbour, Nova Scotia, was made with the assistance of the Fisheries Inspection Laboratory through the use of the facilities of their mobile laboratory including technical personnel. These studies were necessitated by the installation of a sewerage system which replaced cesspools and septic tanks in the town of Antigonish. Careful surveillance of all toxicity reports for individual areas was maintained and action taken when necessary with respect to closure proceedings or the lifting of restrictions for the area concerned. In the Provinces of British Columbia and Quebec the co-operative control program was continued with the respective provincial health authorities.

## **Laboratory Services**

The replacement of a chemist at Vancouver, British Columbia permitted the continuation of laboratory service by the Division under arrangements made with the Food and Drug Directorate to use their facilities for carrying out chemical analyses.

The laboratory facilities at St. Catharines, Ontario continued to render services to federal departments for chemical and mineral analyses of water supplies. The procurement of an engineer to fill the vacancy that had existed for some time in this district office made it possible to increase substantially the volume of field and laboratory work handled during the past year.

At headquarters, considerable time was spent on the development of plans for a proposed Environmental Health Centre to meet the need for increased laboratory services and for purposes of research in special fields of public health engineering.

## **Educational Services**

Three technical papers were presented before professional gatherings or conferences by members of the Division. The lecture series on water supplies for fish processing plants and waste disposal were again repeated by special request before a gathering of Ontario fisheries inspectors. The Division again participated in emergency feeding courses at the Civil Defence College, Arnprior, Ontario, in presenting lectures on water supply and food sanitation.

Two new posters, entitled *Is Your Well Water Safe* and *Filth Invites Flies* were printed during the year in co-operation with Information Services Division. Reprints of two existing posters *Avoid Use of the Common Drinking Cup* and *Unclean Water Can Kill* were processed to meet the heavy demand for such material. No new publications were printed since funds available were required for reprints of *Rural Waters* and *Domestic Sewage Disposal*. The publication of the monthly news bulletin *Public Health Engineering in Canada* was continued on behalf of the Advisory Committee on Public Health Engineering.

## **Field Work Summary**

In all, 482 sanitary surveys of water supplies, ice supplies (natural and artificial) and shellfish growing areas were conducted. A total of 6,393 water samples, 178 ice samples, 32 sewage effluent samples and 141 milk samples were taken for analysis. Some 956 examinations of railway property including stations, restaurants, bunkhouses, mobile work camps and coachyards were made. A total of 170 examinations were made of sewage treatment plants to check their operation. During the year some 203 vessels' water systems were examined for compliance with statutory regulations including five new vessels under construction, for which plans were submitted to this Division for review.

During the year special attention was paid to the examination and appraisal of the quality of milk furnished to passengers aboard common carriers. The findings in recent years have been the subject of concern and while the study is being continued, efforts are being made, with some indication of progress, to effect improvements in refrigeration control and handling methods through the co-operation of officials of the operating companies.

Particular reference is made to several investigations by Division engineers during the year concerning the outbreak of water-borne diseases, typhoid in particular. In recent years the number of such investigations have been relatively

few. However, the extent to which many natural water courses have been polluted by sewage, favours the occurrence of such outbreaks unless care is exercised in the selection and treatment of water sources for domestic purposes.

TABLE 7  
(Public Health Engineering)  
DRINKING WATER QUALITY—COMMON CARRIERS  
1952-1956

Classification	% 1952	% 1953	% 1954	% 1955	% 1956
<b>VESSELS</b>					
Good.....	95.2	95.1	94.9	97.0	96.3
Doubtful.....	2.9	2.8	3.3	1.4	1.9
Dangerous.....	1.9	2.1	1.8	1.6	1.8
<b>RAILWAYS</b>					
Good.....	96.0	96.0	94.6	96.4	95.3
Doubtful.....	2.6	2.2	3.6	2.2	2.8
Dangerous.....	1.4	1.8	1.8	1.4	1.9
<b>AIRCRAFT</b>					
Good.....	84.5	85.1	92.6	92.0	83.0
Doubtful.....	3.2	4.9	3.7	3.6	9.0
Dangerous.....	12.3	10.0	3.7	4.4	8.0

#### CLASSIFICATION

Coliform Bacteria

M. P. N. per 100 ml. *Good*—2.2 or less. *Doubtful*—15 or less. *Dangerous*—More than 15.

## HEALTH GRANTS ADMINISTRATION

On March 31, 1957, the National Health Program completed its ninth year of operation during which it continued to support through grants-in-aid to the provinces the construction of hospitals and the development and extension of a wide variety of public health services and of research.

### Highlights of the Year

Noteworthy advances were made in the extension of local health services in both rural and urban areas, especially in the Provinces of British Columbia, Alberta, Manitoba and Ontario where several new health units were established or the areas covered by existing units enlarged.

An important health problem to receive attention was glaucoma. With grants' assistance, four more glaucoma clinics were set up—three in Ontario and one in British Columbia.



Postgraduate training of public health workers required to staff expanding health and hospital services was continued. Since the inception of this program more than 15,700 persons have received training, either through courses lasting one or more academic years or through short, refresher courses varying in length from a few days to several weeks.

The grants have continued to support efforts to control tuberculosis, venereal and other communicable diseases. In this connection it should be noted that, according to Dominion Bureau of Statistics' preliminary figures, the 1956 death rate from tuberculosis reached an all-time low of 7.3 per 100,000 population, with Newfoundland showing the largest decrease among the provinces. In 1956-57 arrangements made previously for the cost of anti-poliomyelitis vaccine to be shared equally between the provinces and the National Health grants were continued.

With the establishment in 1953-54 of a grant specifically designated for child and maternal health, an accelerated program in this field has developed, with emphasis on better pre-natal care for mothers, improved obstetrical and nursing facilities in hospitals, the availability of more numerous and better trained persons in the fields of obstetrics and care of the newborn, and research into the causes of infant and maternal mortality and morbidity and methods of preventing illness and death.

Two closely allied grants are those for crippled children, begun in 1948, and for medical rehabilitation, inaugurated in 1953-54. In the central and western provinces the Crippled Children Grant has been used most extensively in the management of cerebral palsy cases. Under the Medical Rehabilitation Grant funds are provided for a variety of types of medical rehabilitation equipment, for the training of personnel, and for the extension of medical rehabilitation services, including, in some provinces, the cost of medical rehabilitation treatment for individuals. To assist in coping with the acute shortage of personnel, assistance is being given to a School of Physiotherapy at the University of Alberta and to a School for Rehabilitation at the University of Montreal. During 1956-57 the Montreal school added to its curriculum a degree course in speech and audiology. This is the first speech course offered by any Canadian university and is probably the first bilingual course of its kind on this continent.

Assistance was continued in support of efforts to prevent and to treat mental illness and by research to determine its causes and to explore new methods of treatment. Two outstanding new developments in the past year were the establishment of a community mental health clinic at Digby, N.S., to serve the western part of that province and the opening of a child guidance clinic and mental health centre in Burnaby, B.C.

The grants continued to participate in provincial programs of cancer diagnosis, treatment and research. Highlighting the progress being made were the establishment of three new cancer diagnostic and treatment centres in Quebec and extensive assistance towards the purchase of technical equipment for the new Ontario Cancer Institute, Toronto.

Under the Laboratory and Radiological Services Grant, assistance was continued for the training of personnel and the purchase of technical equipment essential to raising standards of both laboratory and radiological diagnostic services. Late in the year, preliminary steps were taken to organize a virus diagnostic laboratory in Halifax to serve the four Atlantic provinces, and on the west coast British Columbia continued its program of developing regional laboratories by establishing facilities to serve the Lower Fraser and the Okanagan valleys.

In public health research the program of stimulating and developing specific projects was continued. By a process of careful screening and assessment, many promising studies are being supported in almost every medical school in Canada, in other research centres in Montreal, Toronto and Vancouver, and in a number of general and mental hospitals and tuberculosis sanatoria across the country.

A steady growth in Canada's population, shifts in population, because of the opening of new areas, and the necessity for replacing obsolete buildings have contributed to a continuing high demand for assistance under the Hospital Construction Grant. During the year federal aid was approved towards the construction of space for more than 4,000 beds in general, mental, chronic and convalescent hospitals and sanatoria. In addition, assistance was given towards 1,125 beds for nurses' residences and for extensive enlargements to out-patient departments and community health services. The total allotted to these building projects during the year was \$5,808,125.35 and in several provinces the requests for federal assistance reached a point in excess of the monies available under the terms of the Grant.

### **Expenditures**

Expenditures under all grants totalled \$36,280,146.86. For the nine-year period payments to the provinces under this program total more than \$224,530,000.

### **Administration**

The records of the Health Grants Program continued to be utilized by other divisions of the Department for the preparation of reports on trends and developments in a variety of health fields. Close liaison was maintained with the Health Insurance administration in view of the close relationship between the grants and any program of hospital or health insurance. During the year, meetings were held with all provinces to discuss their planning and programs, as well as current administrative problems. These exchanges of views have been most useful.

On May 1 the Health Grants Administration took over from the Quarantine, Immigration, Medical and Sick Mariners Service the Department's responsibility for certifying to the Department of National Revenue concerning the eligibility of public hospitals applying for exemption from sales tax.

## **HEALTH INSURANCE STUDIES**

The year under review was a most significant period insofar as the development of health insurance planning was concerned. The federal proposal to share with the provinces the costs of hospital care and diagnostic (laboratory and radiological) services, described in the previous Annual Report, was given active consideration by a number of provinces.

In this connection, continuing consultations were held between federal and provincial officials, with regard both to policy and to technical matters. Meetings were also held with non-governmental agencies representing the interests of the medical profession, of hospitals and of voluntary insurance. In co-operation with the Research and Statistics Division, further studies were prepared relating to up-to-date estimates of costs.

The declared policy of the government, to launch the federal program "as soon as a majority of provincial governments, representing a majority of the Canadian people, are ready to proceed", had the effect of focusing considerable attention on the readiness of the larger provinces to participate. Before the end

of the fiscal year, five provinces, including one of the largest, had declared themselves prepared to proceed. There were also indications that two or three of the other provinces would be prepared to participate shortly. In consequence, the government took the initial steps to introduce the requisite legislation in Parliament.

The preparatory work involved in drafting legislation and agreements placed considerable pressure on the staff concerned with health insurance matters. There has been close collaboration between a number of divisions in the Department working in this field, particularly with the Research and Statistics Division and the Legal Division. Work is proceeding with regard to the study of statistical and other data which will be required in the event of the establishment of federal-provincial programs.

## **RESEARCH DEVELOPMENT AND INTERNATIONAL HEALTH SECTION**

### **RESEARCH DEVELOPMENT**

The program of scientific research for the fiscal year 1956-57 involved a total of \$2,788,834.44. Of this, \$862,720 was provided for intra-mural research, \$646,540 in medical areas and \$216,180 for socio-economic research in health and welfare. Additionally, \$1,926,114.44 was offered by way of grants-in-aid of medical research under the National Health Grants Program. This latter figure included \$104,929.10 for fundamental research sponsored by the National Cancer Institute of Canada, and \$50,009.00 for clinical studies under the auspices of the Ontario Cancer Treatment and Research Foundation.

Details of intra-mural research activities are presented in the reports of the several divisions concerned, as indicated in Table 8. In the main, these comprise investigations conducted by the several specialized units of the Department and, in general, are aimed at devising new or improved methods of performing the service functions of these divisions. Additionally, they have the objective of gaining new knowledge of public health importance or may be related to national health problems of significance which ordinarily would not be undertaken individually by a province or university.

To provide a comprehensive financial picture of research relating to health and welfare performed within the Department, divisional allocations for investigative purposes presented in Table 8, include those of the Research and Statistics Division. The latter are chiefly in the socio-economic field and, while somewhat dissimilar to the medical research performed in the other divisions, are included in this tabulation to round out the departmental research picture. Detailed reference to the work of this Division is also made in another section of the report.

Under the National Health Grants Program, grants-in-aid of medical research were made, with the sponsorship of the respective provincial departments, to research workers at universities, hospitals and other research performing institutions. From the original amount of \$100,000 provided in 1948 for public health research, the total for medical research has now risen to \$1,926,114.44. Allocations by grant and province are presented in Table 9. The funds for the National Cancer Institute and the Ontario Cancer Treatment and Research Foundation are matched by an equal contribution by the provinces concerned in support of the programs of fundamental and clinical research sponsored by those agencies.

An analysis of fields of medicine or scientific disciplines involved in the extra-mural program is presented in Table 10, relating the numbers of projects and funds allocated to the specific field. Similarly, the disease entities involved in the



research studies have been examined and are listed in Table 11. In the fields of medicine, it will be appreciated that there is considerable overlapping and more than one discipline may be involved in the conduct of many of the studies. Projects have been categorized on the basis of the scientific discipline which has greatest prominence in the performance of the research. Among the disease entities, it will be observed that a significant proportion of the studies cannot be tabulated because of the multiplicity of diseases involved or the lack of relationship to any pathological condition, e.g., administrative studies.

During the year, a survey of the financial aspects of medical research in Canada was conducted and the findings were reported in the *Canadian Medical Association Journal*. Information provided by all known research supporting agencies in Canada and those contributing to the program from the United States was contrasted with similar data assembled three years ago and with figures relating to earlier years of medical research in Canada.

### **International Health**

The increasing responsibilities of the Department relating to international health activities resulted during the year in the establishment within the Directorate of Health Services of an International Health Section, under the supervision of the Principal Medical Officer, Research Development. The Section is responsible for all activities arising out of Canada's membership in the World Health Organization and will co-ordinate departmental interests in the health and related activities of other United Nations Agencies such as the Scientific Committee on Effects of Radiation and the U.N. Narcotics Commission. In addition the Section will advise on requests for technical assistance in the health field under the Colombo Plan Technical Assistance Program and on Canadian representation at international scientific conferences. One of the main activities of the Section is the placement and programming of students and fellows coming to Canada for training under various international auspices, such as W.H.O. and Colombo Plan fellowships. During the year under review training for more than 35 such persons was arranged.

Canada continued active participation in the work of the World Health Organization, one of the largest of the United Nations specialized agencies. The Ninth World Health Assembly, governing body of the Organization, was held in Geneva, in May, 1956. The Canadian delegation was headed by Dr. G. D. W. Cameron, Deputy Minister of National Health. Other members included Mr. Hector Allard, Canadian permanent delegate to the European Office of the United Nations, Dr. F. B. Roth, Deputy Minister of Public Health for the Province of Saskatchewan, Mr. M. G. Clark, Department of Finance and Miss D. M. Percy, Chief Nursing Consultant to the Department.

At the Assembly, Canada was elected as one of the 18 member states entitled to designate a person to serve on the Executive Board of the Organization. Dr. P. E. Moore, Director of Indian and Northern Health Services of the Department was subsequently selected to serve on the Board. This represented the second occasion on which Canada has been so privileged, the term of office being for three years.

The Assembly approved a working budget for 1957 of \$10,700,000 of which Canada's assessed share is \$382,940. In addition to funds derived through assessment against members towards the regular budget, the Organization is responsible for the co-ordination and technical direction of health programs financed



from the United Nations expanded program of technical assistance and the United Nations Children's Fund (UNICEF). Total funds available for international health work from these three sources will amount to approximately \$37,000,000 in 1957.

W.H.O. performs a number of functions designed to protect and promote world health. These include the administration of the International Sanitary Regulations, the establishment of international standards for biological products, regulation of the classification and reporting of diseases and causes of death, and an international Epidemiological Intelligence Service. The Organization also provides advisory and demonstration services on request to assist governments in developing and strengthening their own health administrations and in dealing with their major health and disease problems. Emphasis is placed on control of mass diseases such as malaria, yaws, trachoma, tuberculosis, etc. One of the main problems of the underdeveloped countries is a shortage of trained health workers and a large percentage of W.H.O. assisted projects are aimed at training all categories of health personnel.

In addition to the arrangement of programs in Canada for approximately 20 Colombo Plan trainees, the Section was instrumental in the organization and negotiations for a medical teaching mission which visited and lectured at a number of Indian medical schools and teaching centres during the early part of 1957. The mission was headed by Dr. Wilder Penfield, Director of the Montreal Neurological Institute and included Dr. A.-L. Richard, Dean of the Faculty of Medicine, University of Ottawa, Dr. J. F. McCreary, Professor of Pediatrics, University of British Columbia, Dr. G. J. Wherrett, Secretary of the Canadian Tuberculosis Association, Dr. Armand Frappier, Director, Institute of Microbiology, University of Montreal, Dr. H. E. Burke, Superintendent, Royal Edward Laurentian Sanatorium, Montreal, and Dr. C. G. Shaver, Superintendent, Niagara Peninsula Sanatorium. In addition to introducing to the Indian medical schools visited, some of the newer developments in medical education in Canada, the mission will advise from time to time the best way in which Canadian training facilities might be used for providing advanced instruction and experience for trainees sent to Canada under the Colombo Plan.

TABLE 8  
ALLOCATIONS FOR INTRAMURAL RESEARCH PROGRAM  
1956-57

<i>Division</i>	<i>Allocation</i>
Civil Aviation Medicine .....	\$ 2,500
Dental Health .....	18,000
Epidemiology .....	23,000
Food and Drugs .....	125,000
Laboratory of Hygiene .....	275,000
Nutrition .....	37,000
Occupational Health	
Laboratory Services .....	136,600
Radiation Services .....	29,200
Public Health Engineering .....	240
Research and Statistics .....	216,180
<b>TOTAL .....</b>	<b>\$862,720</b>

TABLE 9  
ALLOCATIONS FOR RESEARCH UNDER THE NATIONAL HEALTH PROGRAM  
By Health Grant and by Province—1956-57

Province	Crippled Children	Venereal Disease	Mental Health	Tuberculosis Control	Public Health Research	General Public Health	Child and Maternal Health	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Nova Scotia.....			25,420 00		36,922 74			62,342 11
New Brunswick.....					9,050 00			9,050 00
Quebec.....		1,150 00	163,046 31	19,830 00	187,385 61	148,166 80	24,230 00	543,808 72
Ontario.....	47,524 29		283,438 88	78,746 00	180,003 67	224,197 79	49,748 74	863,659 97
Manitoba.....			22,165 00		17,535 00	1,975 00	17,590 00	59,265 00
Saskatchewan.....			44,579 00	7,725 91	24,910 00	10,672 00	17,209 26	105,096 17
Alberta.....					700 00			700 00
British Columbia.....			73,189 85		26,538 00	6,632 00	13,802 00	120,161 85
Northwest Territories.....					7,091 89			7,091 89
Total.....	47,524 29	1,150 00	611,839 04	106,302 51	490,136 91	391,643 59	122,580 00	1,771,176 34

Note—Assistance to National Cancer Institute: P.E.I.....\$ 870 00 New Brunswick.....\$ 7,500 00  
 Ontario.....41,849 50 Manitoba.....11,000 00  
 Total.....\$104,929 10  
 Quebec.....\$36,209 60  
 Saskatchewan.....7,500 00

— Assistance to Ontario Cancer Treatment and Research Foundation — \$50,009 00

TABLE 10  
RESEARCH ACCORDING TO FIELD OF MEDICINE  
National Health Program—1956-57

Field of Medicine	No. of Projects	Amount		Per Cent of Total
		\$	cts.	
Psychology and Psychiatry.....	28	390,583	29	22.1
Cardiology.....	12	212,072	99	12.0
Virology.....	13	123,981	13	6.9
Biochemistry.....	19	120,003	20	6.8
Pharmacology and Therapeutics.....	18	98,718	94	5.6
Neurology.....	8	79,753	94	4.5
Special Senses.....	7	73,244	22	4.1
Internal Medicine.....	6	70,347	84	4.0
Tubercle Bacillus incl. B.C.G.....	13	68,229	11	3.8
Bacteriology.....	15	67,030	76	3.8
Pediatrics.....	6	52,311	04	3.0
Obstetrics and Gynaecology.....	9	51,475	38	2.9
Hematology.....	8	47,251	44	2.7
Endocrinology.....	4	42,086	00	2.4
Tuberculosis.....	7	32,955	00	1.9
Pathology.....	6	32,693	98	1.8
Genetics.....	3	26,667	75	1.5
Physiology.....	3	25,511	28	1.4
Dentistry.....	1	25,510	50	1.4
Other—Miscellaneous.....	21	130,748	55	7.4
Total.....	207	1,771,176	34	100.0

TABLE 11  
RESEARCH ACCORDING TO DISEASE ENTITY  
National Health Program—1956-57

Disease Entity	No. of Projects	Amount		Per Cent of Total
		\$	cts.	
Unclassifiable*.....	21	302,797	96	17.1
Psychosis.....	27	273,719	27	15.5 (18.6)
Heart Disease.....	12	208,116	99	11.8 (14.2)
Tuberculosis (Respiratory).....	26	163,444	08	9.2 (11.1)
Infectious Disease.....	23	153,312	87	8.6 (10.4)
Eye, Ear and Mastoid.....	8	95,102	35	5.4 (6.4)
Nervous System.....	11	74,994	20	4.2 (5.1)
Other Respiratory.....	7	59,785	04	3.4 (4.1)
Neonatal Period.....	11	59,158	27	3.3 (4.0)
Bones and Organs of Movement.....	11	58,180	34	3.3 (4.0)
Pregnancy.....	9	46,002	60	2.6 (3.1)
Digestive Diseases.....	8	45,516	15	2.6 (3.1)
Arteriosclerosis and Hypertension.....	2	43,856	00	2.5 (3.0)
Mouth and Teeth.....	2	29,210	50	1.6 (2.0)
Anemias.....	3	24,490	00	1.4 (1.7)
Genito-Urinary System and V.D.....	4	17,979	04	1.0 (1.2)
Neurosis and Psychoneurosis.....	3	17,902	73	1.0 (1.2)
Mental Deficiency.....	2	14,674	00	0.8 (1.0)
Senility.....	2	14,485	00	0.8 (1.0)
Poisoning, Alcoholism and Drug Addiction.....	3	12,720	00	0.7 (0.9)
Other—Miscellaneous.....	12	56,728	95	3.2 (3.9)
Total.....	207	1,771,176	34	100.0 (100.0)

\* No specific disease involved.

### EPIDEMIOLOGY DIVISION

The past year proved an active one for the Epidemiology Division in the investigation and control of disease. Special attention was given to the chronic disease field, particularly to lung cancer, as well as to the ever-present problems presented by the communicable diseases.

Among the activities of the Epidemiology Division, the following warrant special mention.

The Division continued its close surveillance of poliomyelitis during the past year. The weekly telegraphic reports received from all provinces during the poliomyelitis "season" continued to be of great value. These reports were consolidated and weekly statements of the current situation, illustrated by graphs, were supplied to an increasing group of interested agencies in Canada and elsewhere.

Vaccination programs have progressed rapidly. At the beginning of the poliomyelitis season in 1956, 1,800,000 children had been vaccinated. By the end of the fiscal year under review, an additional 1,000,000 had received vaccine. The decline in the incidence of paralytic poliomyelitis from the peak year of 1953, which was evident in 1955, became even more marked in 1956. Fewer paralytic cases occurred in 1956 than in any year since 1950. The effectiveness of the vaccine in preventing paralytic poliomyelitis was shown during 1955, and in 1956-57 the part played by vaccination programs in reducing the overall incidence of paralytic poliomyelitis has been carefully studied by measuring changes in the age distribution pattern.

The Division continued to give technical assistance to the Principal Medical Officer administering the National Health Grants concerned with the control of this disease. Visits were made by the Division's medical officers to various sanatoria in Ontario and New Brunswick and all sanatoria in Quebec during the fiscal year in order to keep in close touch with conditions in those institutions. Declining morbidity has focused attention on the evaluation of case-finding methods presently in use.

The decline in venereal diseases which has been evident for the past few years was interrupted for the first time in 1956. Although the increase was small, it provides clear evidence that the time has not yet come when control measures can be relaxed. The venereal disease situation in Canada was reviewed in an article published in the *British Journal of Venereal Diseases* during the past year. Continued technical assistance with the Venereal Disease Control Grant was given to the Principal Medical Officer administering the National Health Grants program.

This Division, as a member of the Canadian Influenza Information Centre, has provided a service for the collection and dissemination of information concerning the occurrence of influenza-like disease in epidemic form in Canada and other countries.

Efforts have been successfully continued to implement the advances made at the meeting of communicable disease control directors in 1955, in the revision of communicable disease reporting. A number of provinces have now adopted the uniform list of notifiable diseases agreed on at this meeting and it is expected that other provinces will do so shortly. Modifications designed to make reported communicable disease data more useful have been discussed with provincial health departments in collaboration with the Health and Welfare Division of the Dominion Bureau of Statistics, and it is expected that a number of these changes will be introduced shortly.



The investigation of the relationship of residence, occupation and smoking habits to death from lung cancer and other selected causes is making good progress. Completed questionnaire forms have been received from nearly 120,000 respondents and coding of these data is now being done.

A survey of 1,000 home accidents resulting in injury requiring treatment in the out-patient department of hospitals in the Ottawa and Hull area has been completed. The results of the survey were presented to the Dominion Council of Health in November 1956, and have been prepared for publication in the *Canadian Journal of Public Health* at an early date. As an outcome of this investigation a study of accidental poisonings occurring in the home is being instituted.

A study to investigate the short-term symptomatic response to variations in concentrations of air pollutants has been carried out in a chronic disease hospital on a population already having various degrees of respiratory or cardiac handicap. This study was conducted in co-operation with the Biostatistics Section of the Research and Statistics Division and the Occupational Health Division of this Department. Results are presently being evaluated and should be forthcoming shortly.

This section of the Division continued regularly to index and abstract some 150 medical journals and reports each month, and a large reprint and report file containing up to 5,000 pieces of pertinent material is maintained for immediate reference and distribution upon request. The cross-index of 30,000 reference cards used in compiling bibliographies and reports was carried on and extended and the continuing review of current medical material proves invaluable for divisional purposes in preparing replies to the hundreds of requests for information received each year on a variety of subjects. In addition to this work reports were published on such subjects as infectious hepatitis, the role of milk pasteurization in the prevention of epidemics of communicable disease and on the gradual disappearance of isolation hospitals in Canada.

The usefulness of this section has been broadened by offering its services to provincial health departments and schools of medicine and public health.

This division collaborated with the Health Department of the Province of Quebec in the translation into French of the eighth edition of the American Public Health Association publication *Control of Communicable Diseases in Man*. The printing of the French translation of this very useful publication has been met with a very gratifying demand from the Province of Quebec and from many countries where French is spoken.

### LABORATORY OF HYGIENE

The establishment and maintenance of a national laboratory for public health and research was authorized by Bill 37 passed in the House of Commons April 11, 1919.

On March 20, 1957, staff occupancy of the new Laboratory of Hygiene Building, Tunney's Pasture, commenced.

The functions of the Laboratory of Hygiene may be divided into two parts: "investigation and research into public health and welfare", and the responsibility for the control of safety, potency and efficacy of certain biological drugs manufactured or offered for sale on the Canadian market.

### ***Virus Laboratories***

The major activity of the Virus Laboratories was concentrated on the control of commercially produced poliomyelitis vaccines. With the introduction of stricter control measures at the end of the previous fiscal year many more tests in monkeys and tissue cultures were carried out in 1956-57. Thirty-five Canadian and three American lots of polio vaccine were tested during the past year; two lots were rejected on account of safety and six lots on account of low potency.

The diagnostic service for poliomyelitis, other neurotropic and pneumotropic virus diseases was again made available to the provincial departments of health, the Departments of National Defence, Veterans Affairs, the Indian Health and Immigration Medical Services. About 320 specimens of serum, spinal fluid, stool, etc., were received and extensive tests in tissue cultures and laboratory animals led to the isolation of four strains of poliomyelitis virus, type 1, nine strains of type 2 and thirteen strains of type 3.

An epidemic of respiratory illnesses occurring in Prince Edward Island was investigated by the Virus Laboratories in April 1956 and an influenza A-prime strain was isolated. A sample of the strain was forwarded to the World Health Influenza Centre in London, England and was found to be identical with influenza strains isolated at the same time in Holland and in India. These strains were serologically different from A-prime strains of influenza virus isolated in previous years on various continents.

A laboratory survey of antibody levels to poliomyelitis and influenza viruses was carried out on Eskimo sera from the Eastern and Western Territories of the Canadian Arctic. It was found that about 60% of the 180 Eskimos tested had no antibodies to any of the polio viruses, 25% of these Eskimos had antibodies to one type, 13% had antibodies to two types and 2% had antibodies to all three types of polio virus. Antibodies to the three types were found only in the age group of 30 years and over.

It is also of interest to note that very few Eskimos had antibodies to the more recently isolated strains, such as Cuppet and London 51 of the Influenza A type virus.

Further research was carried out on various tissue cultures of human and animal origin with the aim of employing more easily available and economical tissues than those of monkeys for virus isolation work and safety testing procedures.

The isolation and adaptation to various tissue cultures of the new group of adeno-viruses, causing respiratory diseases in the human population has been commenced. The establishment of serological tests and the preparation of specific antisera has been successful and these methods have been included in the diagnostic routine procedures of the Virus Laboratories.

A modified procedure has been developed for the preparation of dried guinea pig kidney antigen, used in the heterophile test for infectious hepatitis.

During this fiscal year a new procedure, based on the use of beta propiolactone (BPL) was introduced for the preparation of viral antigens. Research is being conducted on the use of this chemical in the process of preparation of non-infective viral vaccines. Influenza vaccines prepared by these methods have been found to give a high degree of protection to experimental animals.

### **Bacteriological Laboratories**

The principal function of these laboratories is to act as a national reference centre for the identification of special groups of micro-organisms and for the preparation and distribution of standardized reagents for the laboratory diagnosis of these bacteria. At present, this laboratory is the National Reference Laboratory for the serologic identification of the enteric bacterial pathogens (*Salmonella*, *Shigella*, *Alkalescens-Dispar*, and *Escherichia coli*) and for the bacteriophage typing of the pathogenic *Staphylococci*. In addition, it acts as a national reference centre for the serologic typing of *Streptococcus pyogenes* and *C. diphtheriae gravis*.

Other activities of these laboratories include bacteriological surveys of shellfish-producing areas in the Maritimes, assays of shellfish poison, the bacteriological control of restaurants operated in government buildings, investigation and control of staphylococcal infections in hospitals and assistance to the provincial departments of health in special investigations.

Six types of *Salmonellae* were reported for the first time in Canada during the year. This now brings to 70 the number of *Salmonella* serotypes reported to date in Canada.

There was a marked increase in the number of pathogenic *E. coli* strains reported this year, which is no doubt due to a greater effort on the part of the hospital or public health laboratory to detect these. 055 was the predominant type but this was very largely due to its excessive predominance in Nova Scotia. There was a more even distribution between the different pathogenic serotypes in Ontario. No figures were available for Quebec and B.C. where we have reason to believe there is no less "coli enteritis" than in Ontario or Nova Scotia.

Quarterly reports on the distribution of these enteric bacterial pathogens were distributed to the provincial public health laboratory directors and a complete, detailed report to the Technical Advisory Committee on Public Health Laboratory Services at their annual meeting in December.

In addition to the identification of these enterobacteria, these laboratories continued to supply the provincial laboratories and the laboratories of the D.V.A. hospitals with standardized agglutinable suspensions of *Salmonella* for the Widal agglutination test and diagnostic antisera for identification at the local level of most of the *Salmonella*, *Shigella*, *Alkalescens-Dispar* and *E. coli* pathogenic strains, which they might isolate. Each year there is an increasing demand for these reagents and a considerable part of our staff's activities is taken up in the production of these special diagnostic reagents. This, however, is a most important factor in making possible accurate work in our provincial public health laboratories.

**Sanitary Bacteriology:** This laboratory continued as in the past to assist the Division of Public Health Engineering and the Department of Fisheries in the control of shellfish-producing areas in the Maritimes to ensure the export and the sale to Canadians of only "safe" shellfish. A number of other activities in the field of sanitation were carried out as described below:

(1) *Investigation of Water and Milk Supplies and of Restaurants in Swan River and Dauphin, Manitoba:*

(2) *Water and Sewage Studies, Province of Quebec:*

(3) *Miscellaneous Water Samples:* Of 153 additional water samples tested for coliform density and total bacterial count, 141 were submitted by the Public Health Engineering Division (66 from the Printing Bureau, 46 from D.R.B., 21 from National Parks, Manitoba, and 8 from other sources).



(4) *Restaurant Surveys*: This laboratory continued to assist the Departmental Canteen Committee in the sanitary control of cafeterias operated in government buildings in the Ottawa area.

(5) *Hospital Sanitation Studies*: In our last annual report, mention was made of the initiation of a long-term project to investigate hospital sanitation with a view to studying and eventually to controlling the spread of bacterial infections within the hospital. These studies demonstrated that pathogenic staphylococci are widely distributed throughout the hospital environment, that the hospital strains are in general resistant to the commonly used antibiotics, penicillin and the tetracyclines, and that only by strict attention to aseptic practices on the part of the medical, nursing and housekeeping staffs can the dissemination of these staphylococci be materially reduced. A report on our observations is now being prepared.

At the request of the Directorate of Indian and Northern Health Services, one of our medical bacteriologists conducted in March a 2-week investigation of conditions and practices at the Moose Factory hospital. Special emphasis was given to the isolation of staphylococcal strains. In a series of meetings with the medical, nursing and housekeeping staff, the investigator discussed his observations and made a number of recommendations for the control of the spread of infections within the hospital.

(6) *Shellfish Studies*:

(a) *Routine Surveys*: Bacteriological surveys were conducted in Tracadie, N.B., and in Conway Narrows, P.E.I., to aid in the definition of closures required in growing areas subject to sewage pollution.

(b) *"Toxicity" Control*: The scheme used in previous years for the routine control of toxicity in clams and mussels was again followed in 1956-57. During the year, 608 shellfish extracts were tested for "shellfish poison", from New Brunswick, Nova Scotia, Quebec and from "canned" clams. Toxicity in the Maritime Provinces was in general low during the year and there were no deaths nor illnesses reported as due to this cause. The scheme therefore continues to prove itself effective in controlling this problem.

(c) *Quahaug Cleansing*: On the recommendation of the Interdepartmental Shellfish Committee, a collaborative investigation of the self-cleansing of moderately polluted quahaugs was carried out with the Department of Fisheries. Panmure Bar, P.E.I., was selected as the cleansing site and a pilot plant operation was conducted during the summer, and carefully studied bacteriologically. The trial was a success and results clearly demonstrated that polluted quahaugs quickly cleansed themselves of their bacterial pollution when transferred to "clean" areas. Such a procedure which is practical commercially will permit the safe exploitation of moderately-polluted quahaug stocks which would otherwise be excluded from the market and should be of considerable importance to the industry. A report (Manuscript Report 57-1) of the data and recommendations was prepared for distribution.

(d) *Research*: We have been convinced for some years that a reliable, routine procedure for the determination of *E. coli* would provide a more precise index of sewage pollution in shellfish and shellfish waters than does the determination of the coliform group. Considerable interest in this has recently been shown by the American Public Health Association and by other agencies in the U.S., particularly in a "confirmatory test" for *E. coli*, from positive presumptive lactose broth tubes, using a broth medium with incubation at 44°C. Since commencing the study of this procedure in 1953 we have collected a considerable amount of



information. The Interdepartmental Shellfish Committee Meeting in March, decided that the 44°C confirmation test will be used in conjunction with the standard methods of testing in all shellfish surveys. This is in accord with the thinking of the U.S.P.H.S. and the A.P.H.A., which latter group has recommended this *E. coli* 44°C confirmatory test as a useful and probably necessary adjunct to the bacteriological analysis of shellfish and shellfish waters.

(e) *The Bacteriophage Typing of Staphylococci*: This laboratory serves as the National Reference Centre for the typing of staphylococci, and the continuing interest in staphylococcal infections on the part of hospital authorities throughout the country has resulted in a steady increase in the number of cultures submitted to the centre for typing.

In our last report we mentioned the importance of two new phage types, discovered by our centre, type '81' and type '52AV' in Canada.

Much interest was stimulated by the report of Dr. Shaffer and his colleagues at Columbus, Ohio, that some 19 outbreaks of breast abscesses and skin infections in babies at hospitals across the U.S. were due to one type of staphylococcus which they reported as "42B/47C/44A/52/80/81". We received some of these cultures from Dr. Shaffer, and as we suspected, they proved in our hands to be identical with our '81' strains. It was clearly evident that one type of staphylococcus was responsible for most of the outbreaks occurring in hospitals on this continent even though they were being described differently by the workers in the two countries. In an attempt to resolve the apparent discrepancy, phages 42B, 47C, 44A, 52, and 81, together with their propagating strains, were exchanged between the national reference laboratory for the U.S., and our laboratory, and their lytic spectra studied.

We were able to confirm not only our own results but those of the U.S. workers, showing differences between the "standard" phages being used in the two national centres. The results of this investigation have been forwarded to Dr. R. E. O. Williams of the International Reference Centre at Colindale. (Our type '81' strains had previously been confirmed as such by Dr. Williams.) This will illustrate the difficulties of bacteriophage typing of staphylococci and the need for "international" standards.

A start was made during the year on the preparation of antiphage sera. Rabbits were injected with high titer phage for the preparation of antisera specific for the various serological groups of phages. The phage-neutralizing effect of these antisera will then be used to study the stability and degree of specificity of our typing phages and to characterize newly discovered phages.

In an attempt to be able to interpret more intelligently the significance of variations in phage-patterns of strains isolated in the same hospital, 32 pairs of strains, some from the same individuals, and some from different persons but with only slightly different patterns of lysis were compared. This work is being continued and extended.

*Streptococcus*: This laboratory received requests for Lancefield grouping sera from the different laboratories and 668 ml. of sera were distributed. In addition, 20 cultures of haemolytic streptococci were received for grouping and typing.

*Miscellaneous*: Eighteen specimens (various monkey organs, guinea pig tissue, etc.) were received for bacteriological examination from the Virus Section and 35 specimens from persons with various infections were bacteriologically examined. Fourteen cultures of *C. diphtheriae* were received for typing and 159 serum specimens were titrated for Streptolysin O antibody (ASO).

**Biochemical Research Section**

During the period from April 1, 1956 to March 31, 1957, studies on the nutrition and metabolism of tissue cultures have represented the major activity of the Section, although considerable effort has also been expended on collaborative projects with other sections. During this time period, 392 new synthetic media have been devised and tested on approximately 15,000 individual tissue cultures. Since the establishment of the Biochemical Research Section in October, 1952, more than 1,350 new synthetic media for tissue cultures have been prepared and tested. During the period covered by this report, 8 papers have been published and 3 additional papers are in press. A total of 8 papers or seminars were delivered, 4 by special invitation. In addition, the staff of the Bacteriological Chemistry Sub-Section published 3 papers and delivered 2 papers at scientific meetings.

Correlated studies on tissue cell nutrition and metabolism have been carried out to determine the basic requirements of mammalian cells and the pathways of utilization of the essential nutritional factors. One ultimate objective of these investigations is to establish biochemical differences between normal and malignant cells that might make it possible to control malignancy through the use of anti-metabolites. The basic work during the year has been directed towards a better understanding of normal body cells but comparative studies on the characteristics of Strain L mouse fibroblasts, the HeLa cell of human malignant origin, and mouse ascitic tumor cells have also been undertaken. Recently, this work has been expanded to include three cell lines isolated from human leukemic patients. Studies with the ascitic tumors have shown that rapid freezing in the presence of 20% glycerol results in loss of the mouse strain specificity. This alteration in tumor cell character appears to be irreversible in nature and is not associated with any change in the fundamental chromosome number of the cells. This observation has considerable theoretical importance in cell genetics studies and may have practical application to such problems as tissue transplantations and grafting. Further studies of this nature are now in progress.

In studies on normal cells, the application of our new nutritional depletion technique has made it possible to determine the amino acid requirements of chick embryonic heart tissues. Of the 20 naturally-occurring amino acids, 11 have been found to be essential, 4 were non-essential, and 5 were somewhat inhibitory to culture survival. These studies showed different amino acid requirements for tissue cultures and for whole animals and further experiments are in progress to investigate these differences.

Previous observations on the importance of the sulphur-containing amino acids for tissue culture nutrition have been confirmed and extended. It has been shown that the cells possess an absolute requirement for cystine, but only a supplementary requirement for methionine. More than 30 sulphur compounds of physiological importance were tested and only cysteine was found able to completely replace the cystine requirement. Considerable activity was found with lanthionine, oxidized glutathione, ergothioneine, and beta-mercaptoethylamine. Since this latter compound has been shown recently to function as a protective agent against irradiation damage, further studies on its role in tissue culture nutrition are being carried out.

Studies have been made on protein formation in chick embryonic heart tissues cultivated in synthetic media. A progressive decline in total protein during the cultivation period was observed. This decrease in protein could be arrested by various naturally-occurring substances. Net protein synthesis was achieved by

incorporating in the culture medium liver coenzyme concentrate, yeast extract, beef extract, or chick embryo extract. Attempts to determine the factors governing protein formation in tissue cultures are in progress.

Major emphasis has been placed on cell metabolism studies during the past year. The amino acid metabolism of a variety of chick embryonic tissues cultivated in synthetic media has been investigated and patterns of amino acid uptake and accumulation in the medium established. Similar studies have been carried out with monkey kidney cultures and Strain L fibroblasts. It has been shown that each tissue studied possesses a characteristic pattern of amino acid changes. These changes are different for each cell type and may, in conjunction with the specific nutritional requirements, form a basis for the biochemical characterization of cell types.

In the cell metabolism studies, methodology has continued to play an important role. The chief approach employed to date has been paper chromatographic analysis of the used culture fluids. By refinements of techniques, it has been found possible to separate and identify all twenty-one amino acids in the complex media. This work has been greatly facilitated by the development of new and specific methods for the identification of the amino acids phenylalanine, proline and hydroxyproline. To expand the metabolism studies further, the use of radioactive isotopes has been initiated. Preliminary experiments have been carried out to measure the uptake of S35-labelled cystine from the culture medium and the subsequent distribution of radioactivity among the various components of the tissue cultures. It is anticipated that the use of isotopes will be expanded considerably with the more adequate facilities now available in the new Laboratory of Hygiene building. Recent work has indicated that the limits of resolution of paper chromatography for cell metabolism may have been reached and consideration is being given to the installation of facilities for high voltage paper electrophoresis.

During the period of this report, manuscripts have been referred for the following journals: Cancer Research, Journal of the National Cancer Institute, Analytical Chemistry, Canadian Journal of Biochemistry and Physiology, and Canadian Journal of Microbiology. An extensive review article on tissue culture methodology and nutrition has been prepared at the request of the editors of Bacteriological Reviews.

#### *Publications*

1. Morgan, J. F., Morton, H. J., Campbell, M. E., and Guerin, L. F. The nutrition of animal tissues cultivated *in vitro*. II. A comparison of various synthetic media. *J. Natl. Cancer Inst.*, 16: 1405-1415, 1956.
2. Morton, H. J., Pasioka, A. E., and Morgan, J. F. The nutrition of animal tissues cultivated *in vitro*. III. Use of a depletion technique for determining specific nutritional requirements. *J. Biophys. and Biochem. Cytol.*, 2: 589-596, 1956.
3. Morgan, J. F., and Morton, H. J. The nutrition of animal tissues cultivated *in vitro*. IV. Amino acid requirements of chick embryonic heart fibroblasts. *J. Biophys. and Biochem. Cytol.*, 3, March, 1957.
4. Morgan, J. F., and Morton, H. J. Studies on the sulfur metabolism of tissues cultivated *in vitro*. II. Optical specificities and interrelationships between cystine and methionine, *J. Biol. Chem.*, 221: 529-535, 1956.



5. Morgan, J. F., and Morton, H. J. Studies on the sulfur metabolism of tissues cultivated *in vitro*. III. Biological activity of  $\beta$ -mercaptoethylamine. Submitted to *Can. J. Biochem. and Physiol.*
6. McCrone, M. A., and Morgan, J. F. A study of protein synthesis in tissue cultures. Submitted to *J. Natl. Cancer Inst.*
7. Morgan, J. F., Guerin, L. F., and Morton, H. J. The effect of low temperature and storage on the viability and mouse strain specificity of ascitic tumor cells. *Cancer Res.*, 16: 907-911, 1956.
8. Pasieka, A. E., and Morgan, J. F. Specific determination of hydroxy-L-proline in biological materials. *Proc. Soc. Exp. Biol. & Med.*, 92: 96-99, 1956.
9. Pasieka, A. E., and Morgan, J. F. Specific determination of proline in biological materials. *Proc. Soc. Exp. Biol. & Med.*, 93: 54-57, 1956.
10. Pasieka, A. E., and Morgan, J. F. Quantitative determination of phenylalanine on paper chromatograms. *Anal. Chem.*, 28: 1964-1966, 1956.
11. Morgan, J. F. Tissue culture methodology and nutrition. Submitted to *Bacteriological Reviews*.

#### *Papers presented*

1. J. F. Morgan and H. J. Morton. Tissue culture as a biochemical tool. Symposium at annual meeting of Tissue Culture Association, Milwaukee, Wisconsin, April 3, 1956. (By invitation.)
2. J. F. Morgan and H. J. Morton. Quantitative cystine, cysteine, and methionine requirements of mammalian tissues cultivated *in vitro*. Annual meeting of Society of Biological Chemists, Atlantic City, N.J., April 16, 1956.
3. H. J. Morton, A. E. Pasieka, and J. F. Morgan. Nutritional studies in tissue culture using a depletion technique. Annual meeting of Canadian Society of Microbiologists, Macdonald College, June 21, 1956.
4. J. F. Morgan. Probable future trends in tissue culture nutrition. Decennial Review Conference on Tissue Culture, Woodstock, Vermont, October 8, 1956. (By invitation.)
5. J. F. Morgan, H. J. Morton, and L. F. Guerin. The effect of freezing in glycerol on the viability and mouse strain specificity of ascitic tumor cells. Annual meeting of Canadian Physiological Society, Montreal, October 18, 1956.
6. J. F. Morgan. The use of tissue culture in biochemical research. Seminar delivered at Department of Anatomy, McGill University, October 17, 1956. (By invitation.)
7. H. J. Morton and J. F. Morgan. Studies of the phenylalanine-tyrosine requirement of tissue cultures. Ottawa Valley Branch of Canadian Society of Microbiologists, Ottawa, November 21, 1956.
8. J. F. Morgan. Preservation of viable tumor tissue. Protein Foundation Symposium, Boston, Mass., January 3, 1957. (By invitation.)

#### *Bacterial Chemistry Sub-Section*

In view of the continuing concern over the problem of staphylococcal infections in hospital patients, studies of staphylococcal toxins and their possible role in the infection process have been continued during 1956.

The work may be divided into two phases, (1) production and purification of the toxins and (2) effects of these toxins on animal tissues. The alpha and delta toxins of the staphylococci have been investigated to date.



For the first time, a method has been developed for separating the above lysins from mixtures of the two and for the preparation of delta-lysin free not only of the alpha-toxin but of other known exocellular products of the micro-organism. The effects of the purified materials upon animals and animal tissues may not be studied and evidence has been obtained which indicates that delta-lysin may be lethal to human leucocytes.

Part of this work is described in the following publications:

1. "Staphylococcal toxins. I. Factors affecting the haemolytic activity of alpha-toxin". A. W. Jackson and R. M. Little. *Can. Jour. Microbiol.*, 3: 47, 1957.
2. "Leucocidal effect of Staphylococcal —lysin." A. W. Jackson and R. M. Little. *Can. Jour. Microbiol.*, 3: 101, 1957.

The following papers were presented:

1. "The delta-toxin of *micrococcus pyogenes* var. *aureus*." A. W. Jackson, and R. M. Little. Soc. Amer. Bacteriologists; Annual Meeting, May 2, 1956, Houston, Texas.
2. "Purification and Characterization of Staphylococcal —delta-lysin." A. W. Jackson and R. M. Little. Can. Soc. Microbiologists; Annual Meeting, June, 1956, Macdonald College, Quebec.
3. "Delta-lysin of staphylococcus aureus." A. W. Jackson and R. M. Little. Annual Meeting, Laboratory Section Canadian Public Health Association; December, 1956, Ottawa.

### Clinical Laboratories

*Clinical Chemistry:* One year ago, the first edition of a Manual of Clinical Chemistry for Hospital Laboratories had been completed. This manual had been written primarily for the medical technician and the material included in it has been selected after intensive studies in a pilot laboratory located in an Ottawa hospital. It had been printed in loose-leaf form and was available, without charge, upon request. During the past year, approximately 800 copies of the manual were distributed in response to requests from hospital and public health laboratories in all provinces, laboratories of federal departments and colleges and universities giving training courses for laboratory technicians. A French translation of the manual has been prepared and copies will be available soon.

Studies in connection with the preparation of the Manual of Clinical Chemistry have been continued in order to enlarge the first edition to the point where it will include most of the determinations carried out in small and medium-sized hospitals.

The study of ultra-micro techniques for the estimation of many blood components has been expanded with the co-operation of the Biochemistry and Pediatric Departments of the Ottawa Civic Hospital, and a system of ultra-micro analysis suitable for large and medium-sized hospitals has been established on a firm basis. Particular attention this year has been given to the estimation of calcium in small amounts of serum.

The laboratory has taken part in a second study of cyanmethemoglobin solutions submitted by the National Research Council, Ottawa. This study is a continuation of that instituted by the National Research Council, Washington, D.C., for the purpose of establishing an accurate and stable standard for hemoglobin estimation.

At the request of the Health Services Division of Civil Defence, a study was made of procedures and reagents that had been recommended for a Civil

Defence Emergency Laboratory Kit. Requisition-report forms and detailed procedure cards were designed for inclusion with the kits. Additional suggestions to instructors were written for the assistance of those who will be giving a preliminary course for pharmacists participating in laboratory and blood services.

*Syphilis Serology:* The Division has continued to serve as a national reference laboratory for syphilis serology. By far the greater part of serological testing for syphilis in Canada is performed in the ten provincial public health laboratories or in their regional branches or other associated laboratories. In order to promote uniformity of testing, all standard antigens, amboceptor and complement used in provincial laboratories are prepared at the Laboratory of Hygiene.

The Laboratory has once again taken part in the National Serologic Evaluation Study of the United States. The results obtained thus far have indicated that the levels of sensitivity established in Canadian laboratories are satisfactory.

The Division collaborated with six other laboratories in the assay of an international reference serum for the serodiagnosis of syphilis. This study was organized at the Serological Reference Centre of the World Health Organization where the reference serum was collected and pooled.

Attempts to prepare a fully synthetic antigen for the serodiagnosis of syphilis, in collaboration with Dr. Erich Baer of the Banting Institute, have been continued with considerable success.

The senior officer of the Division is serving on three international committees:

- (a) Sub-Committee for the Development of Standard Serologic Methods. (Am. Public Health Assoc.);
- (b) Committee on Evaluation of Performance (Am. Public Health Assoc.);
- (c) Expert Advisory Panel on Serology and Laboratory Aspects of the World Health Organization.

Certain blood grouping and Rh typing studies have been conducted in the Division. Activities in this field were confined chiefly to testing blood grouping and typing sera, submitted by the Biologics Control Laboratories, for potency, avidity and specificity.

### **Zoonoses Laboratories**

This year a further series of studies was carried out in an attempt to improve the method of detecting Rocky Mountain spotted fever infection in ticks.

A study was undertaken on the viability and infectivity of the causative agent of Rocky Mountain spotted fever in embryonated hen's eggs held in storage for varying lengths of time and at different temperatures, but this study had to be suspended, because of shortage of experienced personnel, when the technician carrying out the work accidentally became infected and came down with a fairly typical syndrome, of moderate severity, of Rocky Mountain spotted fever. As far as we can determine this is the first case of a laboratory infection of this disease where exposure to or contact with infected ticks can be excluded. The case emphasizes the risk involved in this work and the need for extreme caution in handling these organisms.

### **Biologics Control Laboratories**

The program followed by this Division is based on the Laboratory of Hygiene's functions of providing technical assistance and advice to the Director of the Food and Drug Laboratories, and its role as a National Public Health Laboratory. To date, the greater emphasis of work has been placed on the duties related to the Food and Drug Act. This involves the routine control testing

of a wide variety of parenteral drugs, and research related to the establishment and improvement of control tests. Field studies to prove the value of laboratory tests and the value of a number of these preparations in humans are also carried out. Up until this year staff shortages and inability to fill vacancies have hampered the work program and a number of research projects had to be dropped. This staff shortage was overcome late in the fiscal year, which allowed us to reconsider a number of these projects. As a result, a greater proportion of work in this Division is now being devoted to research.

### *Routine Controls*

The drugs for which tests were carried out in this Division fall into several categories. First, there are licensed parenterals such as the biologicals, i.e., vaccines, antitoxins, etc., and the glandular products such as A.C.T.H., liver extract injectable, etc. Manufacturers distributing these products in Canada require a Canadian Biologics Licence. To obtain such a licence, the manufacturing establishments are inspected regularly and they must meet high standards. In addition, their products are sampled at random throughout the year. Tests for bacterial sterility, safety, identity and potency are carried out on those drugs listed in Schedule D of the Canadian Food and Drugs Act and Part C of the Food and Drugs Regulations. Thirty-three plant inspections were carried out in this fiscal year, thirty were found satisfactory, one manufacturer was refused a licence and major changes were requested of two manufacturers.

A second category of drugs are those Schedule C drugs and non-licensed parenterals and for these bacterial sterility and, wherever possible, tests for pyrogens are carried out. To aid in this work, samples of all parenterals entering Canada are sent to the Laboratory of Hygiene for testing.

A third category are the non-parenteral antibiotics, i.e., those for oral, topical, or laboratory use, which are tested for purity, identity and labelled potency. In the course of this work, a survey of antibiotic discs found on the Canadian market was completed. The results showed that there was little connection between the assayed and labelled potencies of the market preparations. Procedures to correct this unsatisfactory situation have already been started.

A total of 1,470 specimens of products, other than antibiotics, were tested. A summary of these follows:

<i>Products</i>	<i>No. Tested</i>	<i>Tests</i>
Serum products (including serum albumin, gamma globulin, sera and antisera)	26	Potency, sterility, pyrogen, clarity
Toxins and diagnostic antigens	66	Potency, sterility, identity
Toxoids	34	Potency, safety, identity
Vaccines (bacterial and viral, including B.C.G. (anti-tuberculosis vaccine) and polio vaccine)	83	Potency, safety, sterility, identity, total nitrogen, clarity
Intravenous	148	Pyrogens, sterility, clarity
Parenteral drugs (not including above)	689	Sterility, clarity, pyrogens

<i>Products</i>	<i>No. Tested</i>	<i>Tests</i>
Medical supplies (dressings, sutures, bandages, etc.)	96	Sterility
Blood transfusion equipment (a service to the Canadian Red Cross Blood Donor Service)	328	Pyrogens, sterility

### *Research*

*Antibiotics:* A study of techniques for the low level assay of various antibiotics was undertaken and completed. This was necessary for the control of food preparations containing antibiotics, i.e. fish preserved by aureomycin dipping, and products such as milk where antibiotics may be present as a result of treatment of the animal with various antibiotics.

Studies were also undertaken on antibiotic discs, since market preparations in Canada were found to be inadequate. Methods of manufacturing and assay were successfully developed. A scientific article of this work was prepared and published in the February issue of the *Canadian Medical Association Journal*. Further studies of the effect of dyes, buffers and other substances on stability of discs are now in process.

*Immunology:* Studies on control procedures of B.C.G. vaccine were substantially increased. The major effort has been directed towards improved and more rapid methods of bacterial counting. Studies on assay procedures have been planned but will be delayed until the animal quarters in our new building have been completed.

Studies on pertussis (whooping cough) vaccine are being continued.

Studies on typhoid vaccines and immunizing agents against staphylococcus have been started.

Immunization studies in humans are being continued. A collaborative study with the Indian and Northern Health Services was completed. Two articles, one on the immunological status of the Canadian Indian and the other on the immunological status of the Canadian Eskimo were completed and will be published in the *Canadian Medical Journal*. The study on prenatal immunization—immunization of mothers in the last trimester of pregnancy—is now in its fourth year. This study, which is in co-operation with the public health authorities, City of Montreal Health Department and McGill University is taking a longer time than originally planned, due to a large number of the families concerned having moved and thus lost to the study.

### *Collaboration—W.H.O. and Other Countries*

The Biologics Control Laboratory participated in W.H.O. collaborative studies for International Standards for Tetracycline and Erythromycin. A proposed standard for Penicillin V has been received but not yet tested.

A number of samples of tetanus toxoid were tested for governmental laboratories in Spain and Iran.

### *Services to Provincial Health Laboratories and D.V.A. Laboratories*

Low potency standards for laboratory use are now being provided for 12 of the antibiotics. One hundred and eighty-six lots of this material and 11 lots of high potency standard were distributed during the fiscal year.

The library of anaerobic cultures is being continued and added to. Four new cultures were included this year. Determinations for anaerobic bacteria were completed on 41 cultures sent in from hospital laboratories.



*Scientific Articles Prepared in the 1956-57 Fiscal Year*

1. Logan, J. E., Griffiths, B. W., and Mason, M.A., The Labelling of Pertussis Vaccine with Iodine 131. *Can. J. Microbiol.*, 1956, 2: 456.
2. Logan, J. E., Griffiths, B. W., Mason, M. A., and Greenberg, L. A Study of the Intranasal Challenge Assay of Pertussis Vaccine Using Iodine 131. *Can. J. Microbiol.*, 1956, 2: 565.
3. Greenberg, L., Fitzpatrick, K. M., and Branch, A. The Status of Antibiotic Discs in Canada. *Can. Med. Assoc. J.*, 1957, 76: 194.
4. Greenberg, L. and Blake, J. D. An Immunological Study of the Canadian Indian. *Can. Med. Assoc. J.* In press.
5. Greenberg, L. and Blake, J. D. An Immunological Study of the Canadian Eskimo. *Can. Med. Assoc. J.* In press.

**Administration**

The administration section is responsible for the following services to the Division: media and wash-up laboratories, animal breeding colonies, test-animal laboratories, transport, stores, building maintenance, workshops, general office and stenographic services. In the conduct of this work liaison is maintained with servicing divisions of the Department, with the Department of Public Works and with private business firms.

The work in all the administration sections has been heavy, particularly during the last six months as extra demands were experienced from the divisional laboratories in preparation for their expanding operations after the approaching move to the new Laboratory of Hygiene building.

With the move to new quarters expected sometime in January, animal breeding was reduced to a reasonable minimum because of the lack of facilities in the new building to handle large numbers of animals. Total production was as follows: 18,500 guinea pigs, 2,000 hamsters, 800 mice and 300 rabbits.

**Items of Special Interest***Parasitology*

During the last part of the previous fiscal year our parasitologist resigned to accept a more remunerative position elsewhere. It was found impractical to attempt to recruit a replacement and as a consequence arrangements were completed with the Institute of Parasitology, McGill University, to provide the diagnostic services previously supplied by the Laboratory of Hygiene. In addition, the Institute agreed to arrange refresher-course training to provincial workers and to continue the conduct of proficiency surveys. We were doubly fortunate in being able to obtain the services of the Director of the Institute, Dr. T. W. M. Cameron, as an official consultant. During the year he visited most of the Canadian provinces to discuss problems in parasitology with the provincial representatives.

**Plans for the Next Fiscal Year**

As the removal of the main laboratory from 45 Spencer Street to Tunney's Pasture is in process at the close of this fiscal year, plans for the next fiscal year are aimed at consolidation of present activities in the new building.

Consideration is being given to the relocation of the animal breeding colony located in Wrightville. What was once a rural area suitable for this unit has now become a highly urbanized district where operations of this kind are undesirable.

## INDIAN AND NORTHERN HEALTH SERVICES 1956

### *Introduction*

Indian and Northern Health Services is a co-ordinating agency whose function it is to give guidance to two similar yet distinct health services. Through this co-ordination it is expected that each will benefit from efficient management without duplication. Officers of both services may contribute to the planning and control of the Directorate as a whole but each person remains a member of either Indian Health Services or Northern Health Services.

### *Indian Health Services*

On the 23rd and 28th days of August, 1876, and on the 9th of September of the same year, at sites near Carlton and Fort Pitt in what is now the Province of Saskatchewan, a Treaty was concluded between representatives of Her Majesty the Queen and the Plain and Wood Cree Tribes of Indians. This document is recorded as number six in a series of agreements reached between the Crown and the Indian nations in the latter part of the 19th century and is of particular historical significance to this Directorate since it is the only Treaty in which health matters are mentioned.

Although a moral obligation had been recognized and honoured even before that time, the Treaty at Carlton and Pitt marks the first and only acceptance by the government of any formal responsibility for the health of the native peoples.

Today the Directorate of Indian Health Services operates facilities in all provinces and territories and its employees provide a variety of services that could not have been remotely foreseen by the early signatories. Nevertheless, the program has been developed on humanitarian rather than on legal grounds. Demonstrated need rather than statutory direction has provided the stimulus for expansion.

It is the avowed intention of every agency of government to foster a sense of self-sufficiency and independence in these people—to advance them to the stage where they can if they wish assume the full privileges and full responsibilities of citizenship. On the other hand, there are many Indians who may be unable to arrange proper care for themselves and their families. The hospital and medical expenses of these people is considered a just charge on public funds, but a balance has been attempted between over-paternalism and rejection.

The eligibility for medical treatment of the individual is determined by three considerations. *First*, he must be an Indian within the meaning of the Indian Act. The *second* criterion used to determine acceptability is that the individual has been following the Indian way of life. For practical purposes, in most parts of the country this means that he has been living on an Indian Reserve or has been away from that Reserve for a period of less than a year. *Finally*, it must be established that the individual is financially unable to arrange appropriate treatment himself. If he is able, he is expected to do so. By contrast, in the fields of public health, preventive medicine and health education the Directorate makes no distinctions; its services are available to all Registered Indians on the same basis.

It should be pointed out that this Directorate is concerned with health matters only; administration of all aspects of Indian Affairs other than health—including the maintenance of the Indian Register—is the responsibility of the Department of Citizenship and Immigration, while the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources plays the same role in relation to the Eskimo.

The Eskimo people have always had a somewhat different relationship to the Crown. There have not been agreements or treaties and reserves were not created. Eskimos are registered, each having his personal number. Up to the present, questions of residency and financial self-sufficiency have not had much significance. This situation may be about to change, in which event the same criteria will apply to either Indian or Eskimo.

### **Northern Health Services**

Medical care and public health effort in the Yukon Territory and Northwest Territories have been for many years the concern of various agencies—the territorial governments on behalf of persons of white status including indigents, the federal government through Indian Health Services on behalf of Indians and Eskimos, the Roman Catholic and Anglican Missions through their hospitals and to some extent the Hudson's Bay Company through their post managers. Although there has been excellent co-operation between these agencies and although it has become clearly apparent that more could be accomplished if a single agency were to co-ordinate health services for all citizens of the Northwest Territories and the Yukon Territory, regardless of racial origin.

Although the Council of the Yukon Territory in June, 1954, approved in principle, "an overall plan for health and hospital services for the Yukon Territory in conjunction with the Federal Government under the auspices of Northern Health Services of the Department of National Health and Welfare", it was not until November, 1956 that the Council agreed to the practical details of a federal-territorial health plan for the Yukon and agreed to place in the territorial government estimates the sum of \$41,000 as its share of the cost of this plan for the fiscal year to follow.

Meanwhile, officers of the new service had been preparing the way by fact-finding, medical and health surveys and active discussion with Northwest Territorial government officers, for a plan whereby the costs of maintaining various out-post nursing stations and clinics could be shared between Indian Health Services and the Government of the Northwest Territories without losing sight of the principle that those who can afford to do so should pay towards their own medical care. This plan is now being developed for presentation in the near future to the Territorial Council.

### **Vital Statistics**

The 1954 Census of Indians in Canada gave the Registered Indian population as 151,558, excluding Labrador. With the addition of the latter the total was 151,828. The total Eskimo population in 1951 was 9,493. The native population in 1956 was estimated at 166,000 of which over 9,500 were Eskimos.

The death rate among Registered Indians in 1954—the latest year for which these figures are available—was 10.0 as compared with a rate of 8.2 for the whole of Canada. In that same year the birth rate for Registered Indians was in the order of 50 per 1,000 while the all-Canada rate was 28.2. It may be interesting to



compare these rates with those for the following countries in 1953: the United Kingdom, 15.9; the United States, 24.7; Costa Rica, 53.9; Guatemala, 51.3; Burma, 49.2; Ecuador, 47.3; Puerto Rico, 34.8.

Approximately 750 Registered Indians go through the legal process of enfranchisement every year, thus assuming the full rights and full obligations of Canadian citizenship.

### **Facilities and Staff**

The complex health and treatment program undertaken by Indian and Northern Health Services over vast expanses of territory requires decentralization of authority and responsibility. The country has, therefore, been divided into five administrative regions the headquarters of which are at Vancouver, Edmonton, Regina, Winnipeg and Ottawa. Each is headed by a Regional Superintendent who represents the Director and who is assisted in his planning by a nursing consultant and a senior administrative officer. In the three regions whose territory extends north of provincial boundaries this team acts in a dual capacity, representing the interests of both Indian Health Services and Northern Health Services. Regions are in turn sub-divided into zones, each under the direction of a zone superintendent. The zone is the basic complete administrative unit in the Directorate.

The basic field unit within the Service is the *Health Centre*. Usually this consists of a dwelling and office, staffed by a registered nurse whose primary function is to implement a public health program and who offers, also, whatever nursing care and, under direction, such medical aid as she is called upon to render. Where circumstances call for a stronger emphasis upon treatment services, the unit is expanded to include a few beds and staffed with one or two graduate nurses, an assistant and a fireman-labourer. This is called a *Nursing Station*. The largest units maintained by the Service are, of course, hospitals. *Hospitals*, as such, are concerned primarily with treatment services; they range in size from 20 to 550 beds and are operated for the regular accommodation of in-patients for whom they provide a wide range of medical and surgical care. The most easterly is that at Moose Factory at the foot of James Bay in Ontario and the most westerly is at Miller Bay near Prince Rupert, B.C. The fourth type of facility is the *Clinic*. This unit is staffed by a doctor and graduate nurse who engage in both public health and treatment work. About half of the clinics are attached to hospitals operated by the Service. The remainder are located in areas where the Indian population is more concentrated.

In 1956 the Service operated facilities in all Provinces except Newfoundland as well as in the Yukon and Northwest Territories. There were 18 hospitals with a total rated capacity of 2,193 beds and 110 bassinets; 583 of these were for General and 1,610 for Tuberculous patient care. Nursing Stations numbered 41, with a rated capacity of 187 beds. There were 66 Health Centres, 34 of them east of the Manitoba-Ontario border and 30 Clinics of which all but 8 were in Western Canada or in the Northwest Territories. For more information regarding these facilities, see Tables 14, 15, 16, 19 and 20.

At the end of 1956 there were 1,913 positions including 204 occupied by Indians and Eskimos on the establishments of Indian and Northern Health Services. Of this total, 96 were for medical officers, 498 were for graduate nurses, 21 were for dental surgeons and 54 were part-time physicians. (Tables 17 and 18.)



The Service leans heavily upon persons, organizations and institutions outside its employ to assist in fulfilling its objectives. Where it is not required to establish its separate facilities or to station its officers, the Directorate ensures that native groups are cared for by arrangement with local agencies, with members of the medical and dental professions, and—in the more isolated areas—with a multitude of missionaries, traders and officers of various government departments. These latter are furnished with simple medicines. They provide what first aid and other assistance they can and advise the nearest administrative centre at the first sign of an emergency. For this dedicated work some receive a small fee while others give their services free of charge. During 1956 more than 700 hospitals provided in-patient care on a per day rate basis. Some 2,000 physicians, 200 dentists and 125 dispensers, submitted accounts for services rendered.

## **Activities 1956**

### *Treatment*

The brief description of facilities and staff above will have indicated the variety of treatment which has been carried on. Tables 21 and 22 show that the volume of care in departmental hospitals and nursing stations in terms of patient days was over 670,000. The volume of care arranged for in other institutions was over 1,080,000 patient days, making a total of some 1,754,500 which was 6,650 more than the previous year. (Table 23.)

### *Case Finding*

Searching out actual or incipient disease has been a constant primary concern of all those in contact with the people. The systematic visits are augmented each year by organized sorties formed about the mobile x-ray units. In 1956 some 24 survey groups operated. An index of the coverage is given by the 94,000 x-ray plates collected in this fashion. Added to the 25,000 plates taken by stationary equipment in hospitals and nursing stations, there was a total of 119,000 new examinations by x-ray. It is estimated that some 60% of the people were so examined. The number inspected, treated and given protective materials was less than this but proportionate. The intense activity of these surveys does not lend itself to extensive data collecting. Wherever a Directorate survey group proved the most logical contact for persons of other than Indian or Eskimo status, the whole community was covered. In this fashion some 13,500 non-natives were x-rayed during the year.

### *Morbidity*

Graph 1 shows the trend of patient days in recent years for three gross classifications—general, tuberculous and mental. It shows a gradual rise in general and mental patient days and a falling off in tuberculosis treatment days among Indians but not for Eskimos. There is some reason to believe that a climax has been reached in the incidence of tuberculosis among Indians. This point has not been reached yet among the far northern people. Graph 2 shows some of the common causes of death among Indians. The total population is too small to permit reading too much into such graphs, and similar data for Eskimos would not be meaningful.

Tuberculosis remains a serious killer of native people even though the rate falls consistently. Tuberculosis remains the most expensive of afflictions for these peoples, having consumed some 57% of the total patient days provided or arranged for by the Services in 1956.

### *Prevention*

In common with every agency which has the opportunity, the Directorate prefers to prevent rather than treat. Since native peoples generally tolerate communicable diseases and their sequelae badly, it is of the greatest importance that every feasible preventive technique be employed early and regularly. One serious handicap is the migratory customs of a large proportion. The completeness of protection under such circumstances is impossible to record accurately but the low incidence of preventable diseases testifies to the efficacy of inoculating at every opportunity. Use of immunizing procedures against smallpox, diphtheria, whooping cough and the typhoid group has been constant. The Directorate has long been convinced of the value of B.C.G. In 1956 some 8,500 inoculations were given, mostly to the very young. (Table 24.) Other materials have been used where endemic disease indicated the importance. Again this year Indians within each province were inoculated against poliomyelitis in the same fashion as other residents and with material supplied from provincial sources, the procedure being carried out by either provincial, local or Directorate medical personnel. Somewhat higher age groups as well as the young were included in the anti-poliomyelitis program for Eskimos because these people are highly susceptible and much more difficult to reach. Altogether some 38,500 inoculations were given during the year. (Table 25.)

The Directorate has had reason to feel that the people whom its program has reached are at least as well protected as their neighbours.

### **Extensions to Services 1956**

#### *Facilities*

A long range program of maintenance and modification to improve efficiency continued to operate during the year. A comfortable residence for nurses was provided at Fort Qu'Appelle, Saskatchewan, and that at Miller Bay, B.C., enlarged. Another four bed nursing station was put into operation at Baker Lake in the Central Arctic and a health centre without treatment beds for the White Bear Reserve near Carlyle, Saskatchewan. Substantial progress was made on the 120 bed Regional Hospital at Whitehorse, Yukon Territory, on a 10 bed nursing station for the Foxe Basin area of the Central Arctic and on a health centre at Obedjiwan in Western Quebec.

#### *Staff*

Some 105 additional positions were established during the year. Certain important additions were made among which were seven more dental surgeon positions which will make possible a more adequate program for dental health among the young. Five additional Public Health Nurse positions reinforced programs already under way, while field nurses were provided for the first time to groups of Indians or Eskimos at Baker Lake, Cambridge Bay and Tuktoyaktuk in the Arctic at Fort Providence, Mackenzie District; White Bear Lake, Saskatchewan; Nakina, Ont., and Williams Lake, B.C.

The qualifications of many regular employees were enhanced by courses which they attended. Six nurses acquired the Certificate in Public Health Nursing, one took a senior course in hospital administration, three studied midwifery and three had short refresher courses in specialized aspects of hospital nursing. One medical officer completed a year on diseases of the ear and eye and two took Diplomas in Public Health. One administrative officer completed the two-year

extension course in hospital administration. Several officers attended meetings of professional groups. Each hospital has continued an in-service program aimed at maintaining the best co-ordination of the treatment teams.

TABLE 12

## CANADIAN ESKIMO AND REGISTERED INDIAN POPULATIONS BY CENSUS YEARS

Registered Indians		Eskimo	
Year	Population*	Year	Population
1871.....	79,594	Prior to 1944	Not Known
1886.....	128,761		
1901.....	99,527		
1921.....	106,000		
1936.....	112,500		
1944.....	125,700	1944	7,700
1949.....	136,400	1949	8,550
1954.....	151,558	1951	8,646

\* Excluding Labrador.

TABLE 13

## ESTIMATED TOTAL CANADIAN ESKIMO AND REGISTERED INDIANS, 1950-1958\*

Year	Estimated Population **
1950.....	151,000
1951.....	153,500
1952.....	156,000
1953.....	158,500
1954.....	161,000
1955.....	163,500
1956.....	166,000
1957.....	168,500
1958.....	171,000

\* Including Labrador.

\*\* Based on an estimated net annual increment of 1.5 per cent in the Registered Indian population, but allowing for an estimated annual loss of from 500 to 1,000 Registered Indians due to enfranchisement.

**Co-operation with other Agencies.**

The Directorate has sought and received substantial co-operation from countless individuals among the Indians and Eskimos, representatives of native and other communities and from the officers of health and administrative branches of community, provincial and federal governments. Wherever possible the Directorate has reciprocated both by endeavouring to understand the aims and methods of these agencies and by practical assistance when the opportunity presents. Interests in the wider sphere included the Director continuing as member of the Executive Board of the World Health Organization.

There is every reason to believe that common understanding will continue to bring about advances in the fields of health more quickly than would uninspired competence.

TABLE 14  
I.N.H.S. FACILITIES BY REGIONS, DECEMBER 31, 1956

I.N.H.S. Region	Province	Facilities						
		Hospitals			Clinics	Nurs. St'ns		Health Centres
		No.	Rated Cap.			No.	Rated Bed Cap.	
			Beds	Bass.				
Eastern.....	Newfoundland.....							
	Nova Scotia.....				1			2
	Prince Edward Island.....							1
	New Brunswick.....					1	6	2
	Quebec.....				1	5	20	15
	Ontario.....	2	186	28	5	1	14	11
	Northwest Territories.....				1	3	12	
	Totals.....	2	186	28	8	10	52	31
Central.....	Ontario.....	1	70	8	1	6	24	3
	Manitoba.....	6	516	43	5	8	32	2
	Northwest Territories.....				1	1	4	
	Totals.....	7	586	51	7	15	60	5
Saskatchewan.....	Saskatchewan.....	2	167	12	3	5	20	5
Foothills.....	Alberta.....	4	678	19	4	6	37	4
	British Columbia.....							1
	Yukon.....							2
	Northwest Territories.....				2	5	18	5
	Totals.....	4	678	19	6	11	55	12
Pacific.....	British Columbia.....	3	576		6			13
Grand Total.....		18	2,193	110	30	41	187	66



TABLE 15

LOCATION, CAPACITY AND STAFF OF I.N.H.S. NURSING STATIONS  
December 31, 1956

I.N.H.S. Region	Nursing Station	Location	Rated Bed Capacity	Total Staff
Eastern.....	Bersimis.....	Bersimis, Que.....	4	2
	Cape Dorset.....	Cape Dorset, N.W.T.....	4	1
	Fort Chimo.....	Fort Chimo, Que.....	4	2
	Fort George.....	Fort George, Que.....	4	2
	Frobisher Bay.....	Baffin Island, N.W.T.....	4	2
	Lake Harbour.....	Lake Harbour, N.W.T.....	4	1
	Manitowaning.....	Manitowaning, Ont.....	14	6
	Port Harrison.....	Port Harrison, Que.....	4	2
	Rupert's House.....	Rupert's House, Que.....	4	2
	Tobique.....	Tobique, N.B.....	6	3
	Totals.....		52	23
Central.....	Baker Lake.....	Baker Lake, N.W.T.....	4	2
	Big Trout Lake.....	Big Trout Lake, Ont.....	4	2
	Cross Lake.....	Cross Lake, Man.....	4	3
	God's Lake Narrows.....	God's Lake, Man.....	4	3
	Island Lake.....	Island Lake, Man.....	4	3
	Lac Seul.....	Lac Seul, Ont.....	4	3
	Lansdowne House.....	Lansdowne House, Ont.....	4	3
	Little Saskatchewan.....	Gypsumville, Man.....	4	3
	Nelson House.....	Nelson House, Man.....	4	3
	Osnaburgh.....	Osnaburgh, Ont.....	4	3
	Oxford House.....	Oxford House, Man.....	4	3
	Pikangikum.....	Pikangikum, Ont.....	4	3
	St. Therese's Point.....	Island Lake, Man.....	4	2
	Sandy Lake.....	Sandy Lake, Ont.....	4	2
	Split Lake.....	Split Lake, Man.....	4	2
	Totals.....		60	40
Saskatchewan.....	Fort a la Corne.....	Kinistino, Sask.....	4	3
	Lac la Ronge.....	Lac la Ronge, Sask.....	4	3
	Mistawasis.....	Leask, Sask.....	4	3
	Onion Lake.....	Onion Lake, Sask.....	4	3
	Pelican Narrows.....	Pelican Narrows, Sask.....	4	2
	Totals.....		20	14
Foothills.....	Cambridge Bay.....	Cambridge Bay, N.W.T.....	2	2
	Coppermine.....	Coppermine, N.W.T.....	4	2
	Driftpile.....	Driftpile, Alta.....	4	1
	Fort Good Hope.....	Fort Good Hope, N.W.T.....	4	2
	Fort McPherson.....	Fort McPherson, N.W.T.....	4	3
	Fort Norman.....	Fort Norman, N.W.T.....	4	3
	Goodfish Lake.....	Speddon P.O., Alta.....	4	2
	Hay Lake.....	Habay, Alta.....	4	2
	Peigan.....	Brocket, Alta.....	11	6
	Saddle Lake.....	St. Bride's P.O., Alta.....	4	2
	Stony.....	Morley, Alta.....	10	6
	Totals.....		55	31
	Grand Totals.....		187	108

TABLE 16  
LOCATION, CAPACITY AND STAFF OF I.N.H.S. HOSPITALS  
December 31, 1956

Region	Hospital	Location	Rated Capacity				Total Staff
			Beds			Bass.	
			Gen.	T.B.	Tot.		
East.....	Lady Willingdon.....	Ohsweken, Ont.....	44	.....	44	10	53
	Moose Factory.....	Moose Factory, Ont.....	88	54	142	18	181
	Totals.....		132	54	186	28	234
Cent.....	*Brandon.....	Brandon, Man.....	.....	240	240	16	.....
	*Clearwater Lake.....	The Pas, Man.....	.....	150	150	4	.....
	*Dynevor.....	Selkirk, Man.....	.....	40	40	10	.....
	Fisher River.....	Hodgson, Man.....	20	12	32	4	31
	Fort Alexander.....	Pine Falls, Man.....	20	.....	20	5	20
	Norway House.....	Norway House, Man.....	34	.....	34	4	75
	Sioux Lookout.....	Sioux Lookout, Ont.....	25	45	70	8	94
Totals.....		99	487	586	51	220	
Sask.....	Fort Qu'Appelle.....	Fort Qu'Appelle, Sask.....	112	.....	112	6	95
	N. Battleford.....	N. Battleford, Sask.....	50	5	55	6	55
	Totals.....		162	5	167	12	150
Foot.....	Blackfoot.....	Bleichen, Alta.....	37	.....	37	4	34
	Blood.....	Cardston, Alta.....	46	.....	46	5	38
	Charles Camsell.....	Edmonton, Alta.....	80	488	568	6	354
	Hobbema.....	Hobbema, Alta.....	27	.....	27	4	19
	Totals.....		190	488	678	19	445
Pacific.....	Coqualeetza.....	Sardis, B.C.....	.....	190	190	.....	148
	Miller Bay.....	Prince Rupert, B.C.....	.....	171	171	.....	148
	Nanaimo.....	Nanaimo, B.C.....	.....	215	.....	.....	175
	Totals.....		.....	576	576	.....	471
Grand Totals.....			583	1,610	2,193	110	1,520

\* Operated for Indian and Northern Health Services by the Sanatorium Board of Manitoba.

TABLE 17  
I.N.H.S. POSITIONS, DECEMBER 31, 1956

Region	Medical Officers			Graduate Nurses			Dent. Surg.	Part Time Phys.	All Others	Totals
	Adm.	Hosp.	Field	P. H. Adm.	Hosp.	Field				
East.....	2	7	10	5	43	50	7	25	195	344
Cent.....	1	6	5	3	44	44	4	9	187	303
Sask.....	1	4	3	1	31	20	2	1	123	186
Foot.....	4	13	14	2	113	32	5	2	337	522
Pac.....	1	12	7	3	89	17	3	17	374	523
H.Q.....	6	.....	.....	1	.....	.....	.....	.....	28	35
Totals.....	15	42	39	15	320	163	21	54	1,244	1,913

TABLE 18  
ESKIMO AND REGISTERED INDIANS OCCUPYING I.N.H.S. POSITIONS

Registered Indians		Eskimo	
Dec. 31, 1955	Dec. 31, 1956	Dec. 31, 1955	Dec. 31, 1956
193	198	4	6

TABLE 19  
I.N.H.S. HEALTH CENTRES

I.N.H.S. REGION	HEALTH CENTRE
Eastern .....	<p>Amos, Quebec            Big Cove, N.B.            Chapleau, Ont.            Chippewa Hills, Ont.            Christian Island, Ont.            Eskasoni, N.S.            Kingslear, N.B.            Lennox Island, P.E.I.            Maniwaki, Que.            Manowau, Quebec            Mingan, Que. (Seasonal)            Mistassini, Que. (Seasonal)            Muncey, Ont.            North Bay, Ont.            Obedjiwan, Que. (Seasonal)            Oka, Que.            Orillia, Ont.            Parry Sound, Ont.            Peterborough, Ont.            Pointe Bleue, Que.            Rapid Lake, Que. (Seasonal)            Restigouche, Que.            Romaine, Que. (Seasonal)            St. Regis, Que.            Sault Ste. Marie, Ont.            Sept Iles, Que.            Shubenacadie, N.S.            Sturgeon Falls, Ont.            Temiskaming, Que.            Walpole Island, Ont.            Waswanipi, Que. (Seasonal)</p>
Central .....	<p>Fort Frances, Ont.            Kenora, Ont.            Nakina, Ont.            Portage la Prairie, Man.            Port Arthur, Ont.            Sandy Bay, Man.</p>
Saskatchewan .....	<p>Broadview, Sask.            Kamsack, Sask.            Meadow Lake, Sask.            Punnichy, Sask.            White Bear Lake, Sask.</p>

TABLE 19 (Concluded)

I.N.H.S. REGION	HEALTH CENTER
Foothills .....	Calgary, Alta. Carmacks, Y.T. Fort Chipewyan, Alta. Fort Rae, N.W.T. Fort Resolution, N.W.T. Fort St. John, B.C. Fort Simpson, N.W.T. High Prairie, Alta. Providence, N.W.T. St. Paul, Alta. Teslin, Y.T. Tuktoyaktuk, N.W.T.
Pacific .....	Alert Bay, B.C. Alexis Creek, B.C. Greenville, B.C. Lillooet, B.C. Massett, B.C. Nootka, B.C. Port Simpson, B.C. Telegraph Creek, B.C. Tofino, B.C. Vanderhoof, B.C. Vernon, B.C. Williams Lake, B.C.

TABLE 20  
I.N.H.S. CLINICS

I.N.H.S. REGION	CLINIC
Eastern .....	Caughnawaga, Quebec Deseronto, Ontario James Bay, Ontario Manitowaning, Ontario Ohaweken, Ontario Pangnirtung, N.W.T. Sarnia, Ontario Sydney, N.S.
Central .....	Chesterfield, N.W.T. Fisher River, Manitoba Norway House, Manitoba Pine Falls, Manitoba Sioux Lookout, Ontario The Pas, Manitoba Winnipeg, Manitoba
Saskatchewan .....	Fort Qu'Appelle, Sask. North Battleford, Sask. Prince Albert, Sask.



TABLE 20 (Concluded)

I.N.H.S. REGION	CLINIC
Foothills .....	Aklavik, N.W.T. Cardston, Alta. Edmonton, Alta. Fort Smith, N.W.T. Gleichen, Alta. Hobbema, Alta.
Pacific .....	Duncan, B.C. Hazelton, B.C. Kamloops, B.C. Miller Bay, B.C. Sardis, B.C. Vancouver, B.C.

TABLE 21  
TOTAL IN-PATIENT MOVEMENT IN EACH I.N.H.S. HOSPITAL  
Calendar Year 1956

Hospital	Under Care			Separations				In At End	Days of Care		Beds	
	In	Adm.	Tot.	Dis.	Tr.	Died	Tot.		P.D.	P.D.S.	No.	Average No. Occ.**
Blackfoot Indian Hospital.....	8	491	499	456	29	9	494	5	4,270	4,207	37	11.7
Blood Indian Hospital.....	18	1,013	1,031	980	26	6	1,012	19	9,254	8,876	46	25.3
*Brandon Sanatorium.....	238	212	450	204	18	2	224	226	84,254	73,138	240	230.2
Charles Cammell Indian Hospital.....	419	1,155	1,574	1,137	34	22	1,193	381	145,192	177,821	568	396.7
*Clearwater Lake Sanatorium.....	166	173	339	137	54	5	196	143	52,263	48,934	150	142.8
Coquelertza Indian Hospital.....	168	330	498	294	66	7	367	131	55,131	52,087	190	150.6
*Dynevor Indian Hospital.....	52	70	122	52	16	2	70	52	17,089	15,601	40	46.7
Fisher River Indian Hospital.....	15	567	582	527	39	3	569	13	5,304	5,297	32	14.5
Fort Alexander Indian Hospital.....	14	521	535	474	41	5	520	15	4,202	4,103	20	11.5
Fort Qu'Appelle Indian Hospital.....	104	819	923	783	18	15	816	107	38,468	42,827	112	105.1
Hobbema Indian Hospital.....	9	958	967	921	18	9	948	19	6,131	5,506	27	16.8
Lady Willingdon Indian Hospital.....	26	778	804	757	21	12	790	14	8,162	8,789	44	22.3
Miller Bay Indian Hospital.....	121	338	459	310	21	5	336	123	46,246	45,654	171	126.4
Moose Factory Indian Hospital.....	188	1,145	1,333	896	271	12	1,179	154	58,879	62,878	142	160.9
Nanaimo Indian Hospital.....	182	315	497	286	23	11	320	177	64,562	66,667	215	176.4
North Battleford Indian Hospital.....	54	1,385	1,439	1,266	100	16	1,382	57	20,344	19,618	55	55.6
Norway House Indian Hospital.....	25	708	733	647	35	13	695	38	13,291	13,238	34	36.3
Sioux Lookout Indian Hospital.....	72	1,108	1,180	1,040	63	19	1,122	58	25,575	27,103	70	69.9
Totals.....	1,879	12,086	13,965	11,167	893	173	12,233	1,732	658,617	682,344	2,193	1,799.7

\* Operated for I.N.H.S. by the Sanatorium Board of Manitoba.

\*\* By In-Patients only.

TABLE 22

TOTAL IN-PATIENT MOVEMENT IN EACH I.N.H.S. NURSING STATION  
Calendar Year 1956

Nursing Station	Total Under Care	Patient Days	Patient Days of Sep.'s	Average Stay of Sep.'s
Bersimis.....	35	65	65	1.9
Big Trout Lake.....	42	136	136	3.2
Cambridge Bay.....	57	480	480	8.4
Cape Dorset.....	43	382	374	9.1
Coppermine.....	21	66	66	3.1
Cross Lake.....	70	170	170	2.4
Driftpile.....	16	52	52	3.3
Fort-à-la-Corne.....	216	751	820	3.8
Fort Chimo.....	24	178	178	7.4
Fort George.....	35	198	197	5.8
Fort Good Hope.....	12	60	60	5.0
Fort McPherson.....	18	63	63	3.5
Fort Norman.....	3	18	18	6.0
Frobisher Bay.....				
God's Lake Narrows.....	100	679	603	6.2
Goodfish Lake.....	27	133	133	4.9
Hay Lake.....	32	88	88	2.8
Island Lake.....	56	245	245	4.4
Lac la Ronge.....	148	668	664	4.5
Lac Seul.....	5	19	19	3.8
Lake Harbour.....	25	180	180	7.2
Lansdowne House.....	64	511	497	8.2
Little Saskatchewan.....	32	111	111	3.5
Manitowaning.....	304	2,122	2,189	7.2
Mistawasis.....	78	245	263	3.4
Nelson House.....	36	114	107	3.2
Onion Lake.....	84	345	345	4.1
Osnaburgh.....	3	6	6	2.0
Oxford House.....	32	205	174	5.8
Peigan.....	270	1,585	1,626	6.1
Pelican Narrows.....	141	995	1,017	7.2
Pikangikum.....	52	167	167	3.2
Port Harrison.....	39	295	351	9.0
Rupert's House.....	37	207	219	5.9
Saddle Lake.....				
Sandy Lake.....	24	65	65	2.7
Split Lake.....	36	194	194	5.4
Stony.....	268	1,310	1,383	5.3
St. Therese's Point.....	69	201	193	2.9
Tobique.....	71	402	429	6.0
Totals.....	2,625	13,711	13,947	5.4

TABLE 23  
IN-PATIENT MOVEMENT BY CONDITION AND REGION IN ALL I.N.H.S. AND NON-I.N.H.S. INSTITUTIONS  
Calendar Years 1954 to 1956

Region	Condition	Patient Under Care			Patients Days			Average Stay of Separations		
		1954	1955	1956	1954	1955	1956	1954	1955	1956
Eastern.....	General.....	9,488	10,198	11,571	143,034	154,322	172,789	15.0	14.8	14.3
	Tuberculosis.....	1,327	1,556	1,625	22,226	221,606	226,818	301.1	235.8	260.6
	Mental.....	179	1,206	1,209	51,728	55,496	57,599	500.1	747.9	1,453.7
	Totals.....	10,994	12,000	13,405	416,988	431,424	457,206	37.2	37.9	42.1
Central.....	General.....	7,337	8,078	8,255	92,318	97,052	94,446	34.0	12.3	11.3
	Tuberculosis.....	1,496	1,424	1,068	243,994	193,676	150,825	135.0	247.6	213.0
	Mental.....	64	70	66	15,145	16,462	16,044	862.1	800.8	593.7
	Totals.....	8,897	9,572	9,389	351,457	307,190	261,315	51.3	40.1	29.1
Saskatchewan.....	General.....	5,434	6,226	7,296	60,945	66,563	79,707	10.3	10.7	11.3
	Tuberculosis.....	763	849	752	102,158	102,095	95,827	155.1	167.7	184.5
	Mental.....	40	55	69	12,025	13,005	13,814	584.0	660.7	291.2
	Totals.....	6,237	7,130	8,097	175,128	181,661	191,348	23.3	25.9	23.7
Foothills.....	General.....	6,361	7,230	8,471	83,798	99,430	106,104	11.6	12.4	11.7
	Tuberculosis.....	1,124	1,000	865	237,071	200,252	151,864	566.7	438.3	481.9
	Mental.....	42	58	71	15,643	15,209	17,399	366.7	1,353.5	164.1
	Totals.....	7,527	8,288	9,407	336,512	314,891	275,367	57.9	46.3	39.2
Pacific.....	General.....	7,869	256*	10,268	95,370	102,935	117,733	11.8	39.7*	11.4
	Tuberculosis.....	738	1,009	945	172,836	161,827	145,508	506.5	366.1	247.1
	Mental.....	73	81	80	21,605	23,174	23,886	1,449.0	455.2	641.0
	Totals.....	8,680	1,346*	11,293	289,811	287,936	287,127	40.1	280.5*	25.7
All Indians.....	General.....	36,489	31,988*	45,861	475,465	520,302	570,779	12.7	13.0*	12.2
	Tuberculosis.....	5,448	5,878	5,235	978,285	879,454	770,842	365.5	280.4	270.1
	Mental.....	598	470	495	116,146	123,346	150,742	714.5	780.9	808.2
	Totals.....	42,335	38,336*	51,591	1,569,896	1,523,102	1,472,363	42.2	43.8*	32.7
Eskimo.....	General.....	897	845	1,711	29,483	37,518	46,256	28.0	44.2	30.4
	Tuberculosis.....	748	1,356	1,578	144,185	183,336	231,425	325.2	240.8	236.5
	Mental.....	11	13	27	3,216	3,888	4,452	88.0	10.0	1,063.4
	Totals.....	1,656	2,214	3,316	176,884	224,742	282,133	127.4	139.3	107.4
Indians Plus Eskimo.....	General.....	37,386	32,833*	47,572	504,948	557,820	617,095	13.1	13.7*	12.8
	Tuberculosis.....	6,196	6,813	7,234	1,122,470	1,062,790	1,002,607	360.8	274.7	263.1
	Mental.....	409	483	522	119,362	127,234	135,194	689.4	774.4	825.1
	Totals.....	43,991	40,550*	54,907	1,746,780	1,747,844	1,754,496	44.8	47.4*	36.4

\*Excluding B.C.H.I.S.



TABLE 24  
B.C.G. VACCINATIONS BY I.N.H.S. REGIONS

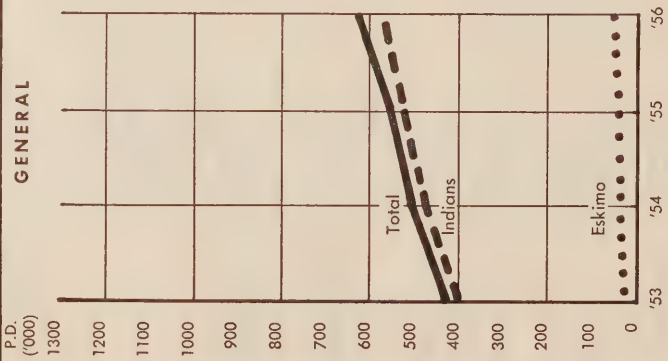
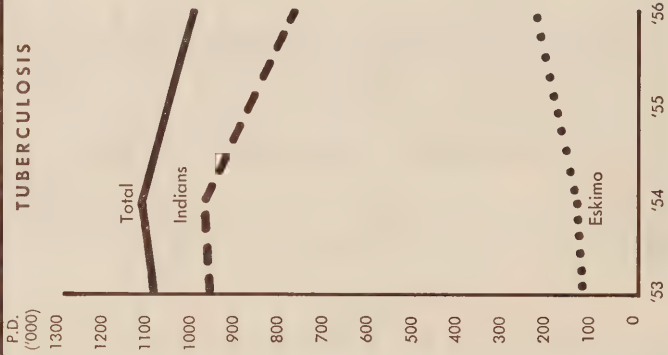
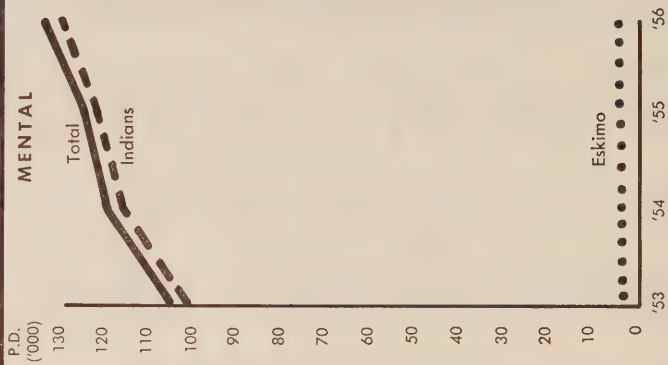
Period	E.R.	C.R.	S.R.	F.R.	P.R.	Totals
Prior to 1955.....	6,031	7,738	229	1,632	6,960	22,590
1955.....	1,130	857	251	1,808	1,067	5,113
1956.....	2,638	1,117	1,959	1,260	1,534	8,508
Totals.....	9,799	9,712	2,439	4,700	9,561	36,211

TABLE 25  
ANTI-POLIOMYELITIS INOCULATIONS

Year	E.R.	C.R.	S.R.	F.R.	P.R.	Totals
1955.....	*	1,400	*	*	2,524	*
1956.....	11,675	9,919	6,001	4,137	6,780	38,512
Totals.....	*	11,319	*	*	9,304	*

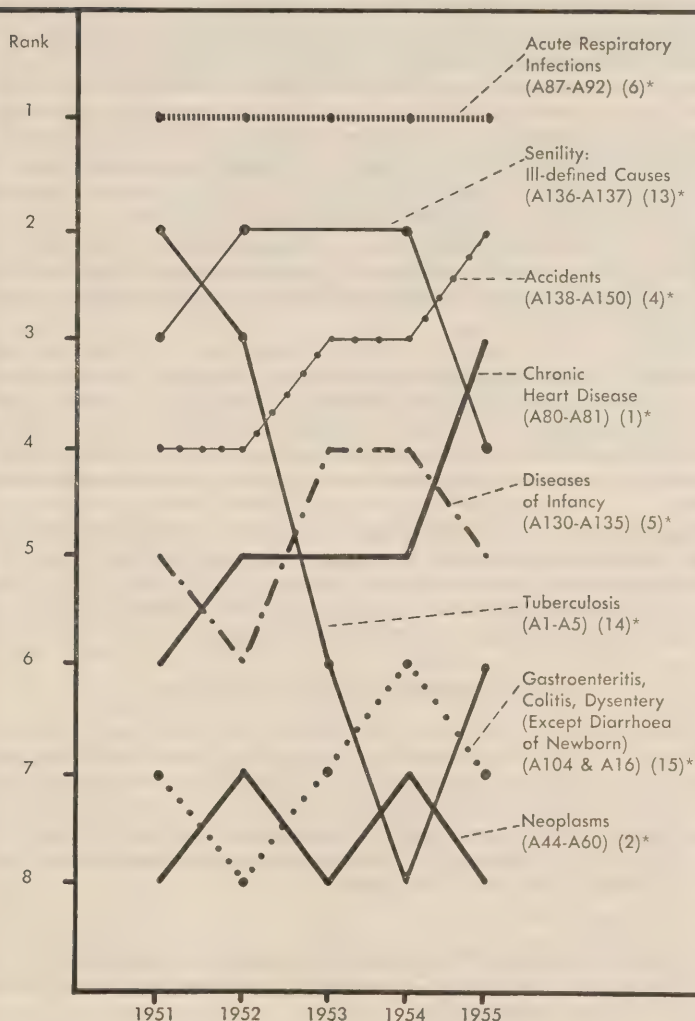
\* Unknown.

INDIAN AND ESKIMO PATIENT DAYS, 1953 - 1956



# SELECTED CAUSES OF INDIAN MORTALITY BY RANK 1951-1955

(Based upon Intermediate List of Causes of Death)



\*Number in brackets shows rank in non-Indian population in 1955

## MEDICAL ADVISORY SERVICES

### CIVIL AVIATION MEDICINE DIVISION

The function of medical adviser to the government and associated agencies on problems related to the health, safety and comfort of air crew, ground crew, and airline passengers has continued. The rapid expansion of civil aviation and the changing requirements in air transportation have necessitated new studies in the establishment and application of medical requirements for aviation personnel licensed by the Department of Transport. Problems relating to the human factor in flight for commercial pilots and medical standards for aviation personnel have been studied at the Royal Canadian Air Force Institute of Aviation Medicine and the University of Toronto, Department of Physiological Hygiene.

The District Medical Offices and the Regional Medical Consultant Boards have continued to function and provide valuable assistance in expediting the assessment of routine medical reports and evaluating contentious cases with marginal physical disability.

A revised method, using a punch-card system, for recording and analysing pilot medical examination information has been introduced. The recording and coding is being performed by the Department of National Health and Welfare while the punching and tabulating is handled by the Department of Transport. This system is providing valuable information regarding causes for medical rejection for the various types of licences issued and assists in the revision of medical standards.

Research in the field of civil aviation medicine is assuming more importance with the introduction of high performance passenger-carrying aircraft. Close liaison is maintained with the National Research Council, the Defence Research Board, the Royal Canadian Air Force Institute of Aviation Medicine, and the Department of Transport in considering these subjects.

### CIVIL SERVICE HEALTH DIVISION

This marks the tenth year during which the Division has been actively engaged in providing an occupational health program to the Federal Public Service. It is heartening to note the progress which these ten years have brought not only with respect to this Division but particularly in the development of more effective community resources. In recent years and particularly so in the past year divisional policy has taken full advantage of these resources to ensure their full and intelligent use for the benefit of individual employees.

#### **Staff Changes**

The acquisition of a new medical officer completed the divisional establishment. This enabled the Health Centre staff to meet more adequately increasing demands for clinical services.

The position of Assistant Supervisor of Nursing Counsellors has been authorized and this appointment will greatly enhance health unit administration. The addition of two Grade 3 nursing counsellors to the establishment brings to 48 the total complement of nursing counsellors under the direction of a Supervisor of Nursing Counsellors and her Assistant.



## **Administration**

During the past fiscal year the Division has administered, through its Health Centre, advisory, diagnostic and emergency medical services to approximately 33,000 government employees in the Ottawa area and nursing counsellor service to some 27,000 employees in government departments through 21 full-time and four part-time health units. In addition the Division has continued to provide an advisory service to departments for employees located outside Ottawa on matters relating to health and welfare. In administering these services no major changes in policy or administrative practices have occurred.

### **(a) Health Centre Services**

Table 26 presents a detailed summary of work conducted at the Health Centre for the year under review indicating the various types of clinical services performed. An increasing number of departments are requesting periodic medical examinations for special groups of employees including senior executive staff. Likewise, departments are requesting pre-employment examinations for special classes of employment and as clinical facilities permit this work is being undertaken. These categories of clinical service together with referrals from health units constitute the most productive types of service which our medical staff are called upon to perform.

The new medical plan for foreign service personnel introduced in October, 1955, was broadened still further in July, 1956, requiring all dependents of foreign service officers and employees to undergo medical examinations prior to and on return from posting abroad, irrespective of whether the post be unhealthy or otherwise. This has increased to some extent the clinical and advisory services afforded the Departments of External Affairs and Trade and Commerce.

The Certificate Review Section functions as an integral part of the Health Centre with medical officers lending administrative assistance on a monthly rotating basis. In all, 74,497 certificates of disability for duty were reviewed and processed together with 10,679 physical examination record forms. This Section also arranged for 352 medical examinations outside Ottawa; many of which were for Colombo Plan appointments. The remainder were for extension of employment beyond the age of 65, confirmatory examinations in connection with separation from the service or for assessment of physical fitness for job performance at the request of departments. Table 27 summarizes retirements from the service on medical grounds, according to disability, during 1956-57.

The workload of both the psychiatrist and the psychologist has remained at approximately the same level as in previous years. The former in addition to his duties as clinical consultant has continued to pursue vigorously the program for preventing mental illness and promoting better mental health in the Civil Service. More and more employees with emotional problems are being detected and referred at an earlier stage. The psychologist has lent his support to this phase of the work. With the acquisition of a full-time stenographer he has been relieved of much routine time-consuming work. Referral sources are primarily from the nursing counsellors, the Health Centre staff, and personnel officers of various government departments. Both the psychiatrist and the psychologist have taken a very active part in the nursing counsellor in-service training program.

### **(b) Health Unit Services**

Table 28 summarizes by months Health Unit services for the fiscal year. With the continuing trend towards decentralization of government buildings into various outlying areas considerable ingenuity is required to maintain adequate

health unit coverage and nursing counsellor service for the shifting groups. Many new employees are concentrated in the Tunney's Pasture area and are receiving health unit service from the main unit in the Bureau of Statistics supplemented by periodic visiting nursing counsellor service.

Employees in the new Kent Street building are receiving similar service through the health unit in the Veterans' Memorial Building. Comprehensive arrangements have been worked out with several departments ensuring essential coverage to all their scattered groups of employees, e.g., each of the twenty groups of Mines and Technical Surveys' employees is specifically allocated to one of five health units and each of the forty groups of National Defence to one of eleven units. This plan affords continuity of service to individuals even though they move from one location to another and makes possible the implementing of uniform personnel policies within the department. Movement of the government employee population necessitated the closing of the unit at John and Sussex Street and the opening of a unit in the Daly Building. An attractive unit has also been opened at RCAF Station Rockcliffe as has a small unit in the Metcalfe Building to serve civilian personnel of the Department of National Defence in these locations. This latter unit functions on a part-time basis as does the new unit at the Rideau Annex of Research Council at Alta Vista. This brings to approximately 27,000 the number of federal government employees receiving health unit service through twenty-five health units of which four operate on a part-time basis. A new part-time unit is in the process of construction in No. 5 Temporary Building which will replace the limited service provided employees of the Unemployment Insurance Commission.

During the past year in lieu of directly providing health services outside the Ottawa area the Division has given advice and assistance to the Canadian Broadcasting Corporation, Toronto, and the National Film Board, Montreal, in the planning and development of their own health service programs. An experienced nursing counsellor was released to the Film Board in Montreal to initiate their service. This provided a continuity of health and welfare services during the upheaval occasioned by a mass movement of staff from Ottawa to Montreal.

### **Staff Education**

In-service training and staff conferences continue to play a vital part in our program. The staff was divided into three discussion groups, each meeting on five occasions during the fall and winter. A high degree of interest with an increasing awareness of the problems affecting the "Working Mother" was shown by the nursing counsellors as they continued this study which was initiated the previous year. The divisional psychologist reviewed interviewing principles with each group and gave instruction on "counselling". The Supervisor of Social Welfare Services led each group in a role-playing session dealing with the new employee's health-induction interview. The welfare supervisor and psychiatrist also met with each group for general review of community mental health and other health and welfare resources. These discussions indicate that nursing counsellors are intelligently using community resources at all levels. Civil Defence was brought to the attention of each group in a two-hour session by experts from that division. Early in the year Mr. E. Sparrow, Chairman of the Workmen's Compensation Board for Ontario, was invited to address the staff discussing policies and problems and current developments in employee rehabilitation.

### **Co-Operative Projects**

Participation in community health planning was a conspicuous feature of this year's activities. Among the first of these projects was the sponsoring of the Mobile Educational Unit of the Canadian Cancer Society whereby employees of seven locations in government buildings in Ottawa were shown films, heard talks and had opportunity for group and individual discussion.

In the fall of 1956 an all-day conference on alcoholism was sponsored by the Ottawa Branch of the Alcoholism Research Foundation. Stemming from this conference a more constructive and positive attitude was taken towards the handling of alcoholics in the public service. The Civil Service Study Group which resulted from it has evolved a brief which outlines broad principles and a suggested policy on alcoholism which has been approved by the Civil Service Commission and government departments. It is worthy of note that the Sixth Annual Report of the Alcoholism Research Foundation, tabled in the Ontario Legislature, incorporated most of the text in this report and cited this brief as an outstanding development.

Harmonious relationships have been maintained with other divisions of the Department, notably the Occupational Health and Public Health Engineering Divisions, in investigating and remedying working conditions and environmental problems in the Public Service. Assistance has been given to the Civil Defence Division at the Civil Defence College, Arnprior and the Division co-operated to the fullest extent with Immigration Medical Services in supplying reception teams for Hungarian refugees at Uplands Airport.

### **Special Activities**

Medical and public health nursing students continue to make use of the Division's services for field work. Field trips were arranged for all fourth year medical students from the Ottawa University and for groups of postgraduate students from McGill University and the University of Montreal.

During the year two medical officers attended each of the two Physicians' and Dentists' Indoctrination Courses held at the Civil Defence College at Arnprior. Similarly, two senior nursing counsellors attended the Nurse Educators' Course and the Supervisor of Nursing Counsellors attended the course for Public Health Nursing and Occupational Health Nursing Administrators.

Early in the year the Divisional Chief visited the United States Department of State in Washington, and the foreign offices in London and Paris, holding discussions on health regulations and services afforded foreign service personnel and dependents.

TABLE 26  
(Civil Service Health Division)  
HEALTH CENTRE STATISTICS  
Fiscal Year 1956-1957

Number of Visits		
Total .....		6,954
First Visit .....	2,979	
Repeat Visit .....	3,975	
Visits by Sex		
Total .....		6,954
Male .....	4,497	
Female .....	2,457	
Analysis of Visits		
Physical Examinations .....	2,584	
Pre-employment periodic, P.S.S.A. ....	578	
Foreign Service, isolated duty, postings, etc. ....	447	
Referrals-voluntary, department, health unit, etc. ....	1,559	
Consultations, Interviews, etc. ....		4,215
Psychological .....	824	
Psychiatric .....	312	
Special—eye, X-ray, immunization .....	3,079	
Accidents .....		155
Industrial .....	27	
Non-industrial .....	128	
Immunizations		
Total number of employees immunized .....		1,833
Total immunizations .....		3,041
Smallpox .....	767	
T.A.B.T. ....	997	
T.A.B. ....	323	
Cholera .....	266	
Typhus .....	94	
Yellow Fever .....	455	
Other .....	139	
Disposal		
Total .....		6,954
Returned to work .....	6,884	
Sent Home .....	70	
Referred to Family Physician .....		116
Total Laboratory Procedures .....		4,754
X-Ray		
Total .....		5,252
Chest .....	2,497	
Chest (photo-roentgen unit) .....	2,230	
Other .....	525	



TABLE 27  
 (Civil Service Health Division)  
 RETIREMENTS FROM SERVICE—ACCORDING TO DISABILITY  
 Fiscal Year 1956-1957  
 Male-155 Female-49 Total-204

Cause of Disability	Age Groups						Total
	Under 40	40-44	45-49	50-54	55-59*	60-64	
Infective and parasitic.....	0	0	1	2	5	0	8
Neoplasms.....	0	2	1	4	6	0	13
Allergic, endocrine metabolic, nutritional....	0	0	1	2	2	0	5
Blood and blood forming.....	0	0	0	0	1	0	1
Mental psychoneurotic personality.....	2	8	8	9	12	0	39
Nervous systems and sense organs.....	3	1	1	6	18	0	29
Circulatory.....	2	2	4	11	43	0	62
Respiratory.....	0	1	0	1	8	1	11
Digestive.....	1	0	0	2	4	1	8
Genito-urinary.....	0	0	0	0	1	0	1
Pregnancy, childbirth.....	0	0	0	0	0	0	0
Skin and cellular.....	0	0	0	0	0	0	0
Bones and organs of movement.....	0	1	1	3	14	0	19
Congenital malformation.....	0	0	0	0	0	0	0
Symptoms and ill-defined.....	0	0	1	2	4	0	7
Accidents and results of old injuries.....	0	0	0	1	0	0	1
Total.....	8	15	18	43	118	2	204

\* Transferred Pensionable Newfoundland Employees.

TABLE 28  
(Civil Service Health Division)  
HEALTH UNIT STATISTICS  
By Months, Fiscal Year 1956-1957

	Total	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Number of personnel under supervision.....		26,200	26,326	26,759	26,608	26,678	26,361	26,242	26,105	26,221	26,170	27,728	27,628
Number of Health Units in operation.....		19	19	19	19	19	19	20	20	20	20	21	21
Number of visits—													
Total.....	179,619	13,972	16,116	15,373	13,348	14,138	14,369	16,485	16,023	13,150	16,112	14,945	15,588
First visit.....	127,325	9,844	11,346	10,950	9,490	10,055	10,423	11,674	11,129	9,541	11,545	10,372	10,953
Repeat visit.....	52,294	4,128	4,767	4,423	3,858	4,083	3,946	4,811	4,894	3,609	4,567	4,473	4,635
Visit by sex—													
Total.....	179,619	13,972	16,116	15,373	13,348	14,138	14,369	16,485	16,023	13,150	16,112	14,945	15,588
Males.....	82,954	6,360	7,478	7,048	6,348	6,843	6,742	7,486	7,249	5,948	7,422	6,805	7,225
Females.....	96,665	7,612	8,638	8,325	7,000	7,295	7,627	8,999	8,774	7,202	8,690	8,140	8,363
Nature of visits—													
Total.....	179,619	13,972	16,116	15,373	13,348	14,138	14,369	16,485	16,023	13,150	16,112	14,945	15,588
Illness.....	76,908	6,180	6,581	6,499	5,790	6,147	6,150	7,028	6,873	5,472	6,696	6,662	6,780
Accident.....	14,803	1,031	1,495	1,423	1,335	1,311	1,032	1,321	1,273	930	1,140	1,200	1,212
Consultations.....	17,888	1,482	1,731	1,695	1,429	1,332	1,488	1,644	1,494	1,125	1,688	1,583	1,716
Return to work visits.....	70,020	5,279	6,309	5,756	4,794	5,348	5,699	6,442	6,383	5,622	6,788	5,580	6,020
Classification of first visits—													
Total.....	127,325	9,844	11,349	10,950	9,490	10,055	10,423	11,674	11,129	9,541	11,545	10,372	10,953
Respiratory.....	55,215	3,373	3,241	2,000	1,472	2,105	2,496	3,861	3,756	3,305	3,604	2,812	3,169
Digestive.....	20,445	1,373	1,740	1,781	1,882	2,105	1,444	1,634	1,726	1,458	1,602	1,553	1,557
Skin and cellular.....	6,411	409	661	710	791	885	639	690	609	495	710	599	618
Menstrual disorders.....	9,719	608	661	1,057	606	572	453	574	590	459	579	568	574
Emotional disorders.....	1,752	123	150	156	174	120	119	126	156	121	145	177	185
Contagious diseases.....	153	17	21	22	16	5	5	10	6	6	14	6	15
Accidents.....	6,163	409	608	648	562	544	420	530	476	399	540	519	508
Accidents—industrial.....	5,159	383	470	450	448	432	360	462	455	333	439	440	478
Ill-defined and all others.....	43,610	3,317	3,999	4,086	3,540	3,575	3,287	3,787	3,955	2,867	3,650	3,698	3,849
Disposal—													
Total.....	179,619	13,972	16,116	15,373	13,348	14,138	14,369	16,485	16,023	13,150	16,112	14,945	15,588
Sent home.....	4,346	389	387	331	299	348	362	403	375	271	380	302	312
Returned to work.....	175,243	13,583	15,729	15,042	13,049	13,790	14,007	16,082	15,648	12,879	15,732	14,533	15,179
Referrals—													
Total.....	11,861	924	1,012	1,075	967	1,020	941	1,024	1,107	773	1,055	1,056	907
Referred to Health Centre.....	2,553	211	258	278	176	183	166	241	253	165	235	248	189
Referred to family physician.....	8,502	651	701	743	688	736	704	716	711	553	738	705	644
Referred to community agencies.....	1,026	58	65	104	103	101	71	67	143	55	82	103	74

Index of Participation—  
Average monthly number of employee Health Unit visits per 100 personnel supervised.....56

## QUARANTINE, IMMIGRATION MEDICAL AND SICK MARINES SERVICES

### *Introduction*

The Quarantine, Immigration Medical and Sick Mariners Services administer the Quarantine Act and Regulations, the Leprosy Act, Part V of the Canada Shipping Act, and have statutory responsibility for the medical examination and treatment of immigrants. Medical facilities are maintained at all major seaports and airports in Canada and in 19 cities in the British Isles and Continental Europe. The medical facilities in Canada are utilized by other branches of this Department and other government departments, for whom periodic and special examinations and immunizations are conducted on marine, harbour and river pilots, and special groups of employees destined to serve in remote areas. A new function is the periodic medical examination of Canadian seamen and foreign seamen on Canadian vessels under the Medical Examination of Seafarers Regulations (P.C. 1955-667).

### *Quarantine Service*

The Quarantine Service functions to reduce the hazard of major infectious diseases being introduced from abroad. Its statutory authority is the Quarantine Act and the Quarantine Regulations. The Regulations now list six major quarantinable diseases: smallpox, plague, cholera, yellow fever, typhus and louse-borne relapsing fever. International health procedures, such as immunization and the control of the insect and animal vectors transmitting human diseases are standardized and limited by the World Health Organization, of which Canada is a member. Canada adheres to the International Sanitary Regulations of the World Health Organization without reservation.

### *Smallpox*

Smallpox continues to be the most important quarantinable disease from Canada's standpoint. For defence we rely entirely on vaccination and revaccination of international travellers and crew members on vessels and aircraft on overseas routes. Smallpox prevails in epidemic or endemic form in many parts of the world and persons travelling on international conveyances are directly or indirectly exposed to smallpox. Canada requires all persons coming from countries beyond a zone comprising, in addition to Canada, the United States, Alaska, Greenland, Iceland, St. Pierre, Miquelon, Bermuda, Cuba, Jamaica, the Bahamas, the Virgin Islands, Puerto Rico, the Panama Canal Zone and the Hawaiian Islands, to present to the Quarantine Officer on entry to Canada evidence of immunity from smallpox acquired within three years of their entry, by either having recovered from the disease or having been vaccinated. Over a million persons presented valid vaccination certificates on arrival in Canada during the year.

### *Plague*

The common vectors of plague are the small black house rat (*Rattus rattus*) and the large grey sewer rat (*Rattus norvegicus*) and fleas which inhabit them.

Quarantine measures against plague are directed chiefly towards ships carrying these vectors and less frequently towards aircraft, particularly of the cargo-carrying type. Vessels from tropical ports where plague infection is prevalent are given a thorough inspection on arrival and if the presence of rats is suspected, are fumigated.

By international arrangement, every vessel in international traffic is routinely inspected every six months for evidence of rat infestation and when rats are found, fumigation is ordered. Ship builders are encouraged to eliminate rat harbourage in new vessels. This program is bringing results and fewer rats are found on vessels each successive year.

### *Typhus and Relapsing Fever*

The body louse (*Pediculus Corporis*) is the chief vector of typhus and relapsing fever. Special precautions were taken to ensure that refugees entering Canada were free from this vector. In November, unconfirmed reports were received of an outbreak of typhus among refugees in Hungary and groups of refugees brought to Canada were treated with DDT powder as a precaution against this disease.

### *Yellow Fever*

For the protection of Canadians travelling to areas where yellow fever is prevalent, facilities have been established at 15 centres across Canada where yellow fever vaccine is administered. During the year, 6,232 inoculations were carried out. This is a considerable increase over the previous year and is due almost entirely to the vaccination of Royal Canadian Naval personnel of several vessels prior to their departure for South and Central American ports. Vaccinations performed at Canadian centres are recognized by countries which adhere to the International Sanitary Regulations. Due to the difficulties encountered in preserving the vaccine in a viable condition, it is not released for use outside the established centres.

During the year at organized quarantine stations and airports, 3,748 vessels and 16,050 aircraft, having on board 1,380,516 persons were inspected. Of this number 387,652 were crew members; 992,788 were passengers; 46 were stow-aways and 30 cattlemen, animal attendants and other miscellaneous persons.

At unorganized ports local Customs Officers act in the capacity of Quarantine Officers, with medical assistance when necessary, and during the year they reported the entry of 736 vessels. The number of vessels inspected for vermin and rodents and the result of such inspections are shown in a following table.

Approximately 140,000 International Certificates of Inoculation and Vaccination were issued.

Epidemiological information on the prevalence of quarantinable diseases in various parts of the world is received from several sources, including the World Health Organization and Canadian Medical Officers stationed abroad.



TABLE 29  
(Quarantine Service)  
SHIPS BOARDED BY QUARANTINE OFFICERS

The following table indicates the number of ships boarded during the fiscal year 1956-57,  
also total personnel on board, divided into their respective groups

Station	Vessels Inspected	Personnel Inspected				Port Totals
		Crews	Passengers	Stowaways	Others	
Halifax, N.S.....	731	83,732	150,820	9	.....	234,561
Saint John, N.B.....	321	17,071	10,011	6	20	27,108
Quebec, P.Q.....	2,088	124,037	132,620	25	3	256,685
William Head, B.C.....	608	28,729	7,395	6	7	36,137
Totals.....	3,748	253,569	300,846	46	30	554,491

TABLE 30  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1956-57

Port	Vessels inspected, fumigated and deratization certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total Vessels inspected	Rodents recovered	
						Rats	Mice
Halifax, N.S.	2	59	73		134		
Sydney, N.S.		14			14		
Saint John, N.B.	2	20	9	1	32		
Seven Islands, P.Q.		9			9		
Quebec, P.Q.		13			13		
Port Alfred, P.Q.		44			44		
Three Rivers, P.Q.		1			1		
Sorel, P.Q.		3			3		
Montreal, P.Q.	3	84	5		92		51
Vancouver, B.C.	23	72	37	279	411	124	
Victoria, B.C.	4	17		88	109	18	2
Port Alberni, B.C.		2		3	5		
Totals	34	338	124	371	867	142	53

TABLE 31  
INSPECTION OF AIRCRAFT SUBJECT TO QUARANTINE  
Fiscal Year 1956-57

Airport	No. of Aircraft	No. of Crew	No. of Passengers	Total Persons
Dorval, P.Q.....	1,875	16,734	89,477	106,211
Gander, Nfld.....	10,437	89,055	460,734	549,789
Goose Bay, Nfld.....	1,309	10,597	49,800	60,397
Malton, Ont.....	376	1,971	14,571	16,542
Moncton, N.B.....	163	1,614	7,843	9,457
Ottawa, Ont.....	5	38	215	253
Sea Island, B.C.....	935	5,533	32,584	38,117
Seven Islands, P.Q.....	2	13	71	84
Stephenville, Nfld.....	270	2,163	10,497	12,660
Sydney, N.S.....	331	3,030	15,027	18,057
Windsor, Ont.....	106	850	3,133	3,983
Winnipeg, Man.....	241	2,485	7,990	10,475
Totals.....	16,050	134,083	691,942	826,025

## Leprosy

At the commencement of the fiscal year, two leprosaria were in operation, one at Hotel Dieu de St. Joseph Hospital at Tracadie, N.B., and the other at Bentinck Island, B.C. During the fiscal year, however, one of the patients at the latter institution died and two were released as non-infectious and placed under medical treatment and supervision at home, so that no patients remained at the end of the fiscal year and the institution is now closed.

Five patients were under treatment at Tracadie, N.B., at the beginning of the fiscal year, and three patients were admitted during the year, so that there are now eight patients in this institution. The facilities at Tracadie are in a modern wing of Hotel Dieu de St. Joseph Hospital. This wing is composed of twelve single rooms and is so designed that patients may have the maximum in comfort and recreation.

Full use is made of the Sulfatrone drugs which, during the past few years have improved the prognosis in about 90% of cases of this disease and have greatly reduced the duration of hospital care. Patients are rendered non-infectious by these drugs and this makes possible their discharge from hospital where home facilities are suitable. These out-patients must continue on medication for a considerable period after leaving the hospital to prevent recurrence of the disease. Careful medical supervision is necessary since the drugs are toxic and many problems arise as a result of treatment.

TABLE 32  
LEPROSARIA ANNUAL CENSUS  
1956-57

	Tracadie N.B.	Bentinck Island B.C.
Inpatients:		
Remaining from last year.....	5	3
Admitted during the year.....	3	0
Died during the year.....	0	1
Discharged during the year.....	0	2
Remaining in hospital.....	8	0
Outpatients:		
Arrested, cases discharged from hospital, continuing treatment at home under medical supervision.....	3	7
	11	7
Total known cases in Canada.....	18	

### **Immigration Medical Service**

The Immigration Medical Service is responsible for preliminary examination of immigrants abroad and final medical examination on arrival in Canada; inspection and medical examination, when necessary, of non-immigrants other than Canadians; observation, clinical investigation and treatment of persons who are ill on arrival and the treatment of indigent immigrants who take ill following arrival or while en route to their destinations in Canada or while accommodated at Canadian government expenses.

Three different systems for preliminary examinations are employed in various parts of the world, the object of these examinations being to ensure that only healthy persons come forward to Canada, or where, under special circumstances, unhealthy persons are permitted to come forward, special arrangements can be made in advance for their care and reception. The three systems employed are as follows:

- (1) Examination by Canadian medical officers;
- (2) Examination by appointed local physicians, called roster doctors;
- (3) Examination by prescreening, a routine involving original examination, at the migrant's expense, by any physician in the country of origin; review of the medical findings and chest x-rays in Canada for classification under the provisions of the Immigration Act and re-examination of the individuals free of charge after arrival at a Canadian port.



Canadian medical officers abroad perform medical examinations free of charge and are located at London, Liverpool, Glasgow, Bristol, Belfast, Paris, Brussels, The Hague, Copenhagen, Helsinki, Karlsruhe, Cologne, Hanover, Hamburg, Berlin, Stuttgart, Munich, Vienna, Rome, Athens and Lisbon.

Roster doctors charge for their services except at Dublin in Eire, where the roster doctor functions, in certain respects, as a Canadian medical officer. They are located at numerous small centres in the United Kingdom, Eire, Malta, Norway, Portugal, Sweden, Switzerland, Hong Kong, India and Pakistan.

The system of prescreening operates in most other countries where the numbers examined are small, making it inadvisable to appoint a roster doctor or employ a Canadian medical officer. Information showing the extent of prescreening operations may be found in Table 33.

The total number of new examinations in the British Isles reached 156,131, a more than 200% increase over the previous year's total of 50,470. On the Continent of Europe there was an increase of 130% where 177,011 examinations were performed compared to 76,210 the previous year.

On January 7, 1957, a new office was opened at Bristol, England, and on the Continent offices at Karlsruhe and Hanover in Germany were amalgamated and re-located at Cologne on November 1st. On December 1st a new office was opened at Stuttgart, and preparations made to open a new office at Leeds. An additional office was opened in London, close to the Green Street office, and this provided additional examining rooms and helped reduce long queues outside the main London office. Travelling teams of Canadian medical officers worked outside the regular offices in the Azores and in various parts of Italy, France and Portugal. Group examinations by team work were undertaken in Luxembourg and in parts of England, Northern Ireland and Austria, where the examination of Hungarian refugees was the chief concern. Some teams were sent to Birmingham during the spring. In general, there was a decrease in the amount of team work throughout Europe during the year due largely to the marked increase in activity at established offices.

Free chest x-rays are provided for immigrants at all offices in the British Isles, France and Holland, and many Hungarian refugees were x-rayed free of charge in various other countries of Europe, particularly Austria. The Immigration Medical Service has eight chest radiography units in the British Isles, France and Holland. All are designed to take 4" x 5" or 4" x 4" miniature films and 14" x 17" full size chest films. Four of the units are new and of the most modern design. These newer machines enabled the Department to cope with the tremendous increase in volume, especially at London.

The total number of Canadian medical officer positions in Europe was increased to 69 and the service was augmented during the year by more than 20 additional physicians, mostly Canadians, who were employed temporarily at peak periods. The majority of these physicians were on post-graduate courses in various parts of Europe. Some were former staff members.

During the year a large number of Hungarian refugees suffering from chronic diseases, such as pulmonary tuberculosis, were admitted to Canada as non-immigrants for treatment. Clinical investigation was necessary following arrival and many active cases of pulmonary tuberculosis required hospital treatment. Others, with more chronic infections, were released from hospital under out-patient care or periodic chest surveillance by the provincial health departments. Re-examinations are performed from time to time so that those who can be

classified as inactive for two years or more may be "landed" as immigrants. Persons with active disease or disease which has been inactive for less than two years may not be "landed" as immigrants but may be allowed to remain for treatment as "non-immigrants" provided provincial health authorities provide treatment facilities.

Medical facilities for the examination and treatment of passengers arriving by sea are maintained at St. John's, Nfld., Sydney and Halifax, N.S., Saint John, N.B., Port Alfred, Rimouski, Quebec and Montreal, P.Q., Vancouver and Victoria, B.C.

Medical facilities for the examination and treatment of passengers arriving by air are located at airports at Gander and Stephenville, Nfld., Sydney, N.S., Moncton, N.B., Montreal, P.Q., Ottawa, Toronto and Windsor, Ont., Winnipeg, Man., Edmonton, Alta. and Vancouver, B.C. The departmental hospitals for the treatment of immigrants are located at Halifax, N.S., Saint John, N.B. and Quebec.

Emergency medical examination and treatment facilities for Hungarian refugees were established at other centres, such as Ottawa, Regina, Calgary and Abbotsford, B.C. By the end of the year 17,155 refugees had arrived in Canada.

TABLE 33  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES  
Fiscal Year 1956-57

<b>CANADA:</b>		
Immigrants medically examined on arrival at ocean and airports .....	208,354	
Non-immigrants medically examined on arrival at ocean and airports .....	37,062	
Certified as "prohibited" under Immigration Act, Section 5, (a) and (b) .....	209	
Certified as physically defective, Section 5 (c) .....	1,730	
<b>OVERSEAS (United Kingdom, Continent of Europe and Orient):</b>		
Prospective migrants medically examined (first examinations) .....	337,784	
Certified as "prohibited" under Immigration Act, Section 5 (a) (b) and (i) .....	4,784	
Certified as physically defective, Section 5 (c) .....	24,285	
Re-examinations .....	41,533	
<i>United Kingdom:</i>		
Prospective migrants medically examined .....	156,131	
<i>Continent of Europe:</i>		
Prospective migrants medically examined .....	177,011	
<i>Orient:</i>		
Prospective migrants medically examined .....	4,642	
<b>ALL OTHER COUNTRIES:</b>		
Medically prescreened .....	22,792	
Certified as "prohibited" under Immigration Act, Section 5 (a) and (b) .....	403	
Certified as physically defective, Section 5 (c) .....	2,772	
Re-examinations .....	1,652	

#### DETAILS OF EXAMINATIONS

	EXAMINATIONS OVERSEAS	Examinations	Re-examinations
By Canadian Medical Officers in British Isles .....	128,451	16,096	
By Roster Doctors in British Isles .....	27,680	2,220	
By Canadian Medical Officers on the Continent .....	170,965	22,552	
By Roster Doctors on the Continent .....	6,046	685	
By Roster Doctors in the Orient .....	4,642		
Total, 1956-57 .....	337,784	41,553	
Total, 1955-56 .....	131,199	27,795	

TABLE 33 (Concluded)

BRITISH ISLES:		Examinations	Re-examinations
Belfast .....	by Canadian Medical Officers	7,520	1,349
Bristol .....	by Canadian Medical Officers	2,729	117
Glasgow .....	by Canadian Medical Officers	28,042	3,720
Liverpool .....	by Canadian Medical Officers	25,708	3,491
London .....	by Canadian Medical Officers	64,452	7,419
Belfast .....	area by Roster Doctors.....	174	22
Bristol .....	area by Roster Doctors.....	1,138	32
Dublin .....	area by Roster Doctors.....	5,972	505
Eire .....	area by Roster Doctors.....	671	58
Glasgow .....	area by Roster Doctors.....	3,274	347
Liverpool .....	area by Roster Doctors.....	7,304	485
London .....	area by Roster Doctors.....	9,147	771
CONTINENT			
Athens .....	by Canadian Medical Officers	6,516	809
Berlin .....	by Canadian Medical Officers	5,464	903
Brussels .....	by Canadian Medical Officers	6,114	1,179
Cologne .....	by Canadian Medical Officers	7,680	978
Copenhagen .....	by Canadian Medical Officers	8,798	637
Hamburg .....	by Canadian Medical Officers	4,851	828
Hannover .....	by Canadian Medical Officers	8,893	1,227
Helsinki .....	by Canadian Medical Officers	2,013	214
Karlsruhe .....	by Canadian Medical Officers	11,181	1,416
Munich .....	by Canadian Medical Officers	5,243	844
Paris .....	by Canadian Medical Officers	15,656	1,023
Portugal and Azores .....	by Canadian Medical Officers	4,669	53
Rome .....	by Canadian Medical Officers	40,756	9,363
Stuttgart .....	by Canadian Medical Officers	1,916	461
The Hague .....	by Canadian Medical Officers	12,615	1,121
Vienna .....	by Canadian Medical Officers	28,600	1,496
Malta .....	by Roster Doctors.....	322	112
Norway .....	by Roster Doctors.....	1,781	181
Portugal .....	by Roster Doctors.....	557	155
Sweden .....	by Roster Doctors.....	1,097	95
Switzerland .....	by Roster Doctors.....	2,289	122
ORIENT			
Hong Kong .....	by Roster Doctors.....	4,032	.....
India .....	by Roster Doctors.....	495	.....
Pakistan .....	by Roster Doctors.....	115	.....
Total .....		337,784	41,533

## EXAMINATIONS IN CANADA: 1956-57

	Immigrants	Non-Immigrants
Gander, Nfld. ....	566	579
St. John's, Nfld. ....	638	301
Halifax, N.S. ....	43,704	1,349
Sydney, N.S. ....	42	24
Saint John, N.B. ....	8,847	332
Montreal, Que. ....	2,579	821
Quebec, Que. ....	65,133	12,872
Dorval, Que. ....	26,777	12,289
Malton Airport, Ont. ....	16,883	1,916
Toronto, Ont. ....	1,140	.....
Fort Erie, Ont. ....	4,711	654
Niagara Falls, Ont. ....	3,651	522
Vancouver, B.C. ....	1,789	689
Vancouver Airport, B.C. ....	4,464	2,029
Victoria, B.C. ....	215	106
Others .....	27,215	2,579
Totals .....	208,354	37,062

TABLE 34  
 CASES PRE-SCREENED AT OTTAWA SHOWING COUNTRY OF ORIGIN  
 Fiscal Year 1956-57

Country	Examined	Re-Examined	Passed	Certified—Section 5			Total Certified
				"a"	"b"	"c"	
Total:—1955-56.....	15,987	945	13,550	10	216	1,266	1,492
Total:—1956-57.....	22,792	1,652	17,695	18	385	2,772	3,175
Breakdown by Countries—1956-57							
Algeria.....	753	63	618		15	57	72
Argentina.....	607	55	418		21	111	134
Australia.....	2,152	109	1,813	2	16	214	230
Azores.....	552	36	477		8	31	39
Bermuda.....	106	9	91			6	6
Bolivia.....	39	4	18		7	10	17
Brazil.....	404	44	273		35	52	87
British Guiana.....	205	18	172			15	15
British West Indies.....	1,248	78	1,102	3	10	55	68
Bulgaria.....	14	2	6			5	6
Burma.....	7	3	3			1	1
Canada*.....	6,180	463	4,955	6	46	710	762
Central Africa.....	61	10	45			6	6
Central America.....	18	6	10		2		2
Ceylon.....	24	2	20				2
Chile.....	58	1	45		2	2	12
China.....	14		12		2		2
Colombia.....	55		39			10	10
Cyprus.....	63	6	48			12	12
Czechoslovakia.....	101	3	81			13	16
Dutch Guiana.....	42	4	25		3		9
Dutch West Indies.....	33	8	29		1	8	2
Ecuador.....	28	2	19			2	6
Egypt.....	282	15	221		13	33	46
Fiji Islands.....	11	2	8			1	1
Hungary.....	596	28	384		18	166	184
Iceland.....	67	8	52			7	7



Indo-China.....	8	3	4	1	1	1
Indonesia.....	11	1	10			1
Iran.....	8		7			1
Iraq.....	6		6			
Israel.....	428	39	280	13	96	109
Japan.....	205	10	121	19	55	74
Korea.....	15	4	6	1	4	5
Lebanon.....	527	7	471	4	45	49
Madagascar.....	7	1	6			
Madeira.....	86	7	75	1	3	4
Malaya.....	36		32		4	4
Mauritius.....	33		28			
Mexico.....	3		1		4	5
Morocco.....	1,404	125	1,140	1	118	139
New Zealand.....	490	19	413	2	51	58
Paraguay.....	791	66	589	1	117	136
Peru.....	28	3	19		5	6
Philippines.....	15	1	5		7	9
Poland.....	466	15	290	20	141	161
Roumania.....	150	7	105	2	38	40
South Africa.....	449	16	387	2	43	46
Spain.....	257	37	170	11	39	50
Syria.....	6	1	3	2		2
Thailand.....	5	1	4			
Tunisia.....	250	19	211	3	17	20
Turkey.....	90	1	75	1	13	14
Uruguay.....	56	2	47		7	7
U.S.A.....	2,121	188	1,684	17	229	249
U.S.S.R.....	154	9	91	3	51	54
Venezuela.....	325	31	234	8	52	60
West Indies.....	37		30	1	7	7
Yugoslavia.....	605	57	437	29	82	111
Totals.....	22,792	1,652	17,695	18	2,772	3,175

\* Persons already in Canada applying for landed immigrant status.

TABLE 35  
(Immigration Medical Service)  
CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT  
Fiscal Year 1956-57

	Canada	British Isles		Continent of Europe		Orient Examined by Roster Drs.	All Other Countries Prescreened (X-rays and clinical reports reviewed at Ottawa)	Total
	Ocean and Airports	Examined by Can. M.C.'s	Examined by Roster Drs.	Examined by Can. M.C.'s	Examined by Roster Drs.			
Certified under:								
SS (a)								
Mental Diseases and Defects.....	30	219	39	305	16	2	18	629
SS (b)								
Chronic Infectious Diseases.....	179	1,008	175	2,501	59	452	285	4,759
SS (c)								
Physical Defects.....	1,730	9,350	2,081	12,079	563	212	2,772	28,787
SS (f)								
Chronic Alcoholism.....		2		6				8
Total.....	1,939	10,579	2,295	14,891	638	666	3,175	34,183

### **Sick Mariners Service**

The Sick Mariners Service has the distinction of being Canada's first prepaid medical-surgical-hospital-treatment plan. The federal government by agreement with the provinces took over responsibility for operating such a service at the time of Confederation. The plan operated provincially prior to this, having been devised to prevent foreign seamen arriving at Canadian ports from becoming public charges when in need of medical or surgical treatment.

Part V of the Canada Shipping Act is the authority under which free medical, surgical and hospital care is provided to crew members employed on vessels paying Sick Mariners dues, for all conditions except permanent insanity for periods up to one year. The Act also provides for the collection by local collectors of customs of tonnage duties known as Sick Mariners dues, which are collected from vessels arriving at ports in the provinces of Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec, British Columbia, and those parts of Ontario and Manitoba which border on Hudson and James Bays. Payment of such dues is compulsory for all vessels arriving from foreign ports and from vessels which have made at least one voyage during the year between the provinces mentioned above. The payment of dues by fishing vessels, however, is on a voluntary basis and the vessel so paying must be of Canadian registry, employed exclusively in fishing and must make the initial payment of dues prior to the first fishing voyage in a calendar year. Applicable to all, the rate of dues is fixed by the Act at two cents per net registered ton, and is payable each time a vessel enters port, but not more than three times in a calendar year. The minimum payment is two dollars. The maximum amount paid by a vessel in 1956 was \$995.05, which was collected in three instalments.

Sick mariners clinics, staffed by Medical Officers of the Department, are in operation at Sydney and Halifax, N.S., Saint John, N.B., Quebec and Montreal, P.Q., and Vancouver, B.C.

Port physicians employed on a part-time salary basis provide treatment at St. John's, Nfld.; Lunenburg, North Sydney, Liverpool, Pictou and Digby in Nova Scotia; Shippegan and Tracadie in New Brunswick; Port Alfred and Gaspé in Quebec; and at Victoria, Port Alberni and Powell River in British Columbia. In various other ports treatment is provided by designated physicians paid on a fee-for-service basis. A Marine Hospital is operated at Sydney, N.S., and, in addition to sick mariners, this hospital admits Indians of the Eskasoni Indian Agency from five reserves and other patients whose treatment is a federal government responsibility.

The total number of hospitals in Canada authorized or appointed to treat sick mariners during the year was 158 and the number of port physicians, consultants and specialists employed was 733.

Total dues collected during the calendar year 1956 was \$348,262.83, and the total cost of treatment for crew of vessels paying these dues amounted to \$805,882.52. A total of 34,339 seamen received treatment for 45,032 diseases or injuries. Of this number, 2,974 seamen were admitted to hospitals. The total number of crew members on vessels paying Sick Mariners dues was 128,544. Pulmonary tuberculosis cases discovered and treated amounted to 22, for an unadjusted rate of 17 per 100,000 persons. Tables relating to this Service follow.

TABLE 36  
(Sick Mariners Service)

STATEMENT OF DISEASES AND INJURIES TREATED  
During the Fiscal Year 1956-57

<i>Disease</i>	<i>Cases Treated</i>
Tuberculosis of respiratory system .....	22
Tuberculosis, other forms .....	.....
Syphilis and its sequelae .....	137
Gonococcal infection .....	2,329
Dysentery, all forms .....	12
Other infective diseases commonly arising in intestinal tract .....	126
Certain diseases common among children: Scarlet Fever, Diphtheria, Whooping Cough, Measles and Mumps .....	51
Malaria .....	5
All other diseases classified as infective and parasitic .....	247
Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues .....	39
Benign neoplasms and neoplasms of unspecified nature .....	475
Allergic disorders .....	915
Diseases of thyroid gland .....	425
Diabetes mellitus .....	145
Avitaminosis and other deficiency states .....	122
Anaemias .....	2,404
Psychoneuroses and psychoses .....	901
Vascular lesions affecting central nervous system .....	122
Diseases of eye .....	610
Diseases of ear and mastoid process .....	1,046
Rheumatic fever .....	90
Chronic rheumatic heart disease .....	126
Arteriosclerotic and degenerative heart disease .....	214
Hypertensive disease .....	661
Diseases of veins .....	1,952
Acute nasopharyngitis (common cold) .....	4,663
Acute pharyngitis and tonsillitis, and hypertrophy of tonsils and adenoids .....	1,209
Influenza .....	2,392
Pneumonia .....	858
Bronchitis .....	1,912
All other respiratory diseases .....	1,854
Diseases of stomach and duodenum, except cancer .....	2,665
Appendicitis .....	325
Hernia of abdominal cavity .....	1,210
Diarrhoea and enteritis .....	772
Diseases of gall-bladder and bile duct .....	621
Other diseases of digestive system .....	3,316
Nephritis and nephrosis .....	551
Diseases of male genital organs .....	1,001
Deliveries, complication of pregnancy, childbirth and puerperium .....	2
Boils, abscesses, cellulitis and other skin infections .....	1,800
Other diseases of skin .....	1,332
Arthritis and rheumatism, except rheumatic fever .....	925
Diseases of bones and other organs of movement .....	190
Other specified and ill-defined diseases .....	394
Accidents, poisonings and violence (external cause) .....	1,148
Occupational accidents and occupational poisonings .....	2,330
Accidents and poisonings not specified as occupational .....	386
	<hr/> 45,032



TABLE 37  
(Sick Mariners Service)  
REVENUE, EXPENDITURE AND DEFICIT CLASSIFIED ACCORDING TO TYPE OF VESSEL  
Calendar Year 1956

Classification of Vessel	Revenue		Expenditure		Deficit		Deficit Expressed as Percentage of Revenue
	\$	cts.	\$	cts.	\$	cts.	
Foreign-going .....	332,771	10	438,018	73	105,247	63	32
Coasting .....	3,837	48	19,787	29	15,949	81	415
Fishing .....	11,654	25	346,277	64	334,277	64	2,871
Additional expenditure not classified as to type of vessel .....			1,798	86	1,798	86	
Totals .....	348,262	83	805,882	52	457,619	69	131
Government (not paying S.M. Dues) Treatment provided under authority of P.C. 1955.4/483 .....			93,539	93			
Total Expenditure—Part V, Canada Shipping Act and P.C. 1955/482 .....			899,422	45			

# WELFARE BRANCH

## INTRODUCTION

Details concerning the various programs administered by this branch are to be found in the divisional reports which follow. This introduction will therefore be concerned only with some of the highlights of the year's activities.

### *Unemployment Assistance*

The federal government in 1955 offered to share with the provinces in the expenditures for unemployment assistance made by a province or a municipality whenever the numbers of persons assisted in any month exceeded .45% of the province's population. Agreements were signed with six provinces in anticipation of legislation that would give effect to the agreements. The agreements in five cases provided for the sharing of costs from July, 1955, while the sixth agreement, at the request of the province concerned, called for an effective date of January, 1956. The Unemployment Assistance Act was given Royal Assent on July 11, 1956, and with the passage of this Act, it was possible to pay the federal share of all claims which had been received from the provinces. Agreements are presently in effect with the provinces of Newfoundland, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan, and British Columbia. The total federal contribution during the fiscal year amounted to \$7,914,171.31. This included payment for expenditures incurred in five provinces for the period of July, 1955, to March, 1956, in the amount of \$3,823,611.27. The share of costs for 1956-57,—for which some claims were still outstanding at the year's end,—was \$4,090,560.04.

### *Family Allowances and Old Age Security*

The most noteworthy development concerning family allowances and old age security was the announcement near the end of the fiscal year that the government would seek amendments to the Family Allowance Act and the Old Age Security Act whereby the rates would be increased during the coming year. Details of these increases, which were approved by Parliament in April, 1957, are given in the divisional reports. The numbers of recipients under these programs continued to increase although the rate of growth was somewhat less than in the previous year.

### *Old Age Assistance, Allowances for Blind Persons and Allowances for Disabled Persons*

The number of persons in receipt of old age assistance decreased from 93,023 recipients as of March 31, 1956 to 89,907 on March 31, 1957. This reduction reflects a continuation of the trend which began in 1955-56.

There was little change in the number who received an allowance under the Blind Persons Act. There were 8,256 recipients as of March 31, 1957,—an increase of only twenty-six from the number of beneficiaries at the end of the previous year.

The number of persons who received benefit under the Disabled Persons Act rose to 31,835 as of March 31, 1957, an increase of 5,808 from the number of recipients in March, 1956.

At the end of the fiscal year the government announced that it would ask Parliament to amend the Old Age Assistance Act, the Blind Persons Act, and the Disabled Persons Act to provide for a higher rate of benefit and increased income ceilings. Parliament approved the proposed changes in April, 1957.

### ***Fitness and Recreation Consultant Service***

The Departmental Consultant on Fitness and Recreation continued to provide, on request, information relative to fitness, recreation, physical education, community centres and related subjects. New publications included three pamphlets of the Hockey Series, four new items in the Track and Field Series and booklets entitled *Everyday Exercise* and *The Volunteer in Recreation*. These new publications are prepared in the Department so far as the editorial and technical aspects of the publications are concerned: they are then published by the Queen's Printer on a "for sale" basis along with other informational material prepared in previous years. A limited number of copies of these publications dealing with fitness and recreation are available on a free basis from the Department.

A project to establish reasonable standards of basic physical efficiency was undertaken in co-operation with universities and provincial and municipal authorities. The arrangement with the Royal Canadian Air Force for co-operative preparation of instructional materials was also continued.

### ***Sales Tax Exemption for Welfare Institutions***

The Excise Tax Act was amended in 1950 to provide for the exemption from sales tax of public institutions devoted to the care of children, the infirm and the aged, if the institutions are certified by the Minister of National Health and Welfare as meeting the requirements of the Act. Twenty-six institutions were certified during the fiscal year. This brings the total number of institutions certified to 429.

### ***Incorporation Under the Federal Companies Act***

Applications from welfare, recreation and sports organizations for incorporation under the Federal Companies Act were examined by the Welfare Branch, at the request of the Secretary of State.

### ***Welfare Training Programs***

Training programs continued to be arranged for persons awarded social welfare fellowships and scholarships by the Technical Assistance Administration of the United Nations. In addition, programs were arranged for the first time for persons brought to Canada for training in social welfare under the Colombo Plan.

### ***General***

The Welfare Branch assisted in the arrangements for the selection of candidates for the Queen Elizabeth Scholarships offered in Canada by the Eliot-Pearson School for Nursery School and Kindergarten Teaching, Tufts College, Medford, Massachusetts. At the end of the fiscal year responsibility for future arrangements concerning the award of these scholarships was transferred to the Department of External Affairs.

The Deputy Minister of Welfare was a member of the Canadian delegation in attendance at the United Nations Economic and Social Council, held in Geneva in July and August 1956. He also attended the International Conference of Social Work in Munich in August, 1956, where he was elected president of the Conference for the period 1956-1960. Mr. R. E. Curran, Legal Adviser to the Department of National Health and Welfare attended meetings of the United Nations Children's Fund (UNICEF) in October and November 1956, taking the place of the regular Canadian representative, Mrs. D. B. Sinclair, who was unable to attend because of illness.

Mrs. D. B. Sinclair, Executive Assistant to the Deputy Minister of Welfare since 1946, left the Department in March, 1957, on leave of absence in order to assume the important post of Deputy Director of the United Nations Children's Fund.

The main Welfare Branch expenditures were:

	<i>Administration</i>	<i>Net Benefits</i>
Welfare Branch		
Unemployment Assistance	\$ 48,427	\$ 7,914,171
Family Allowances		
Old Age Security	2,727,169	397,517,840
Old Age Assistance		20,399,105
Blind Persons Allowance	103,717	2,959,526
Disabled Persons Allowance		7,167,352
Total .....	\$2,879,313	\$815,069,368

## UNEMPLOYMENT ASSISTANCE

The subject of federal participation in the costs of Unemployment Assistance was on the agenda of the Federal-Provincial Preparatory Conference held in April, 1955. Following the Preparatory Conference there were meetings with the provinces in May and June for the specific purpose of discussing the Unemployment Assistance Agreement. Further discussions on this matter took place at the Federal-Provincial Conference in October, 1955. Before the end of March, 1956, an agreement for the sharing of these costs had been made with Newfoundland, Prince Edward Island, New Brunswick, Saskatchewan and British Columbia. An agreement with Manitoba was signed on May 30, 1956. All of the agreements were effective from July 1, 1955, with the exception of that with New Brunswick, which provided for an effective date of January 1, 1956.

The agreement with each province was subject to the enactment of legislation by the province and by Canada that would give effect to the agreement. This was accomplished on the federal side by the passage of the Unemployment Assistance Act, which was given Royal assent on July 11, 1956.

The Unemployment Assistance Agreement provides for federal participation in the expenditures made by the province or municipalities within the province for financial assistance to persons who are in need. The conditions under which assistance may be given and the rates of assistance are determined by the province or municipalities. Expenditures for both employable and unemployable persons may be included and the costs of maintaining individuals in homes for special care, such as nursing homes or homes for the aged, are shareable under the agreement.



The purpose of the Unemployment Assistance Act is to provide federal help when the costs of assistance reach a point where they constitute an undue strain on provincial or municipal resources. The federal contribution of 50% therefore begins when the number of persons in receipt of assistance exceed .45% of the population of the province.

The total federal expenditure for unemployment assistance during the 1956-57 fiscal year was \$7,914,171.31. This included an amount of \$3,823,611.27, which was the federal share of claims for the months of July, 1955 to March, 1956. Because the provinces may submit claims at any time within six months from the month in which the assistance is given, there were some claims for expenditures made by the provinces or municipalities during 1956-1957 that were not received by the close of the fiscal year. Complete information in regard to federal reimbursement for provincial and municipal expenditures made in 1956-57 will therefore be shown in the next annual report.

Details concerning the amount paid to each province and the number of persons assisted will be found in the appended tables.

TABLE 38  
(Unemployment Assistance)  
FEDERAL SHARE OF EXPENDITURES MADE BY PROVINCES OR MUNICIPALITIES  
IN 1955-1956

Month	Newfoundland	Prince Edward Island	New Brunswick (a)	Manitoba	Saskatchewan	British Columbia	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
July 1955.....	83,173 63	5,615 89	.....	39,479 59	26,580 90	200,991 84	355,841 85
August 1955.....	84,686 07	5,796 28	.....	39,753 74	26,414 48	181,175 04	337,825 61
September 1955.....	93,555 51	5,920 33	.....	39,145 30	21,453 61	175,338 94	335,413 69
October 1955.....	107,975 45	5,757 80	.....	42,726 19	27,318 94	172,132 63	355,911 01
November 1955.....	134,719 67	5,957 76	.....	53,028 27	43,124 33	175,139 02	411,969 05
December 1955.....	153,979 30	6,649 16	.....	67,930 65	62,674 87	206,917 91	498,151 89
January 1956.....	166,413 45	6,405 52	6,695 15	65,535 40	52,199 55	201,885 11	499,134 18
February 1956.....	175,472 80	6,383 72	6,419 65	66,543 38	55,084 38	202,058 15	511,962 08
March 1956.....	174,758 95	6,546 91	5,739 20	69,988 15	54,668 06	205,700 64	517,401 91
Total.....	1,174,734 83	55,033 37	18,854 00	484,130 67	369,519 12	1,721,339 28	3,823,611 27

(a) Agreement with New Brunswick effective from January, 1956.

TABLE 39  
(Unemployment Assistance)  
FEDERAL SHARE OF EXPENDITURES MADE BY PROVINCE OR MUNICIPALITIES  
IN 1956-1957

Month	Newfoundland		Prince Edward Island		New Brunswick		Manitoba		Saskatchewan		British Columbia		Total	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
April 1956.....	173,505	28	6,656	39	5,021	48	67,766	54	48,407	81	219,505	01	520,862	51
May 1956.....	162,038	93	6,155	57	4,129	88	61,374	92	45,098	11	203,249	89	482,047	30
June 1956.....	145,835	49	2,782	07	105	35	48,692	64	34,171	38	188,380	59	419,967	52
July 1956.....	91,662	16	3,262	92	388	93	40,347	52	26,175	49	176,588	42	338,425	44
August 1956.....	86,749	42	3,273	23	344	79	37,726	46	30,901	56	168,937	41	327,932	87
September 1956.....	87,087	12	3,435	65	Nil	(a)	40,742	62	27,336	88	163,563	95	322,166	22
October 1956.....	193,556	36(b)	3,535	03	(c)	(c)	24,593	95(b)	31,282	06	163,569	69	316,537	09
November 1956.....	102,379	70(b)	3,566	00	(c)	(c)	(c)	(c)	40,667	31(b)	176,247	70	322,860	71
December 1956.....	101,560	30(b)	4,308	25	(c)	(c)	(c)	(c)	12,410	09(b)	206,160	39	324,439	03
January 1957.....	108,812	45(b)	5,328	77	(c)	(c)	(c)	(c)	(c)	(c)	208,321	24	322,462	46
February 1957.....	70,875	91(b)	5,570	80	(c)	(c)	(c)	(c)	(c)	(c)	198,041	79(b)	274,488	50
March 1957.....	(c)	(c)	6,161	21	(c)	(c)	(c)	(c)	(c)	(c)	112,209	18(b)	118,370	39
Total.....	1,224,063	12	54,035	89	9,990	43	321,244	65	296,450	69	2,184,775	26	4,090,560	04

(a) No federal payment was required under the claim for this month.

(b) Partial payment—supplementary claim will follow.

(c) Claim not received at time of preparation of report. Payments for these months will be shown in next annual report.

TABLE 40  
(Unemployment Assistance)  
NUMBER OF PERSONS IN RECEIPT OF ASSISTANCE 1955-56

Month	Newfoundland	Prince Edward Island	New Brunswick (a)	Manitoba	Saskatchewan	British Columbia	Total
July 1955	17,138	1,223	.....	7,379	7,433	20,372	53,495
August 1955	17,179	1,229	.....	7,304	7,084	18,960	51,756
September 1955	18,082	1,292	.....	7,187	6,376	18,485	51,422
October 1955	20,111	1,222	.....	7,187	6,900	18,227	53,647
November 1955	26,243	1,284	.....	8,343	8,129	18,645	62,644
December 1955	31,572	1,539	.....	9,408	9,686	20,271	72,476
January 1956	36,865	1,518	4,158	9,917	9,621	20,626	82,705
February 1956	39,701	1,531	4,103	10,364	9,897	20,559	86,155
March 1956	38,641	1,596	3,843	10,649	10,464	20,785	85,978
Total	245,532	12,434	12,104	77,688	75,590	176,930	600,278
Monthly average	27,281	1,382	4,035	8,632	8,399	19,659	66,698

(a) Agreement with New Brunswick effective from January 1956.



TABLE 41  
(Unemployment Assistance)  
NUMBER OF PERSONS IN RECEIPT OF ASSISTANCE 1956-57

Month	Newfoundland	Prince Edward Island	New Brunswick	Manitoba	Saskatchewan	British Columbia	Total
April 1956.....	39,739	1,593	3,695	10,263	9,824	20,482	85,596
May 1956.....	36,408	1,490	3,446	9,461	8,841	19,473	79,119
June 1956.....	30,781	797	2,532	8,161	8,099	18,495	68,865
July 1956.....	27,248	847	2,637	7,342	7,305	18,157	63,536
August 1956.....	26,096	864	2,627	7,279	7,666	17,702	62,234
September 1956.....	26,027	875	2,534	7,099	7,274	17,445	61,254
October 1956.....	27,888(a)	912	— (b)	7,423	7,466	17,352	61,041
November 1956.....	30,703(a)	895	— (b)	— (b)	8,181(a)	18,493	58,272
December 1956.....	31,076(a)	1,050	— (b)	— (b)	5,312(a)	20,223	57,661
January 1957.....	33,554(a)	1,289	— (b)	— (b)	— (b)	20,661	55,504
February 1957.....	23,064(a)	1,420	— (b)	— (b)	— (b)	20,053(a)	44,537
March 1957.....	— (b)	1,532	— (b)	— (b)	— (b)	15,397(a)	16,929
Total.....	332,584	13,564	17,471	57,028	69,968	223,933	714,548
Average.....	30,235	1,130	2,912	8,147	7,774	18,661	—

(a) Indicates data from first claim—supplementary claim will follow.

(b) Claim not received at time of preparation of report.

## **OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS**

### **OLD AGE ASSISTANCE**

The Old Age Assistance Act provides federal-provincial financial aid shared equally to persons over 65 years of age who are in need until such time as they reach the age of 70 and become eligible to receive federal pensions under the Old Age Security Act.

During the first few years the Act was in operation there was a steady increase in the number of recipients. The number rose from 87,675 at the close of the fiscal year 1952-53 to 93,273 at the close of the fiscal year 1953-54 and to 94,625 at the close of 1954-55. The number began to decrease in 1955-56 and this trend continued throughout 1956-57. There were 93,023 recipients as at March 31, 1956 and 89,907 as at March 31, 1957.

As old age assistance normally ceases when the recipient attains the age of 70 years, the number reaching that age in any fiscal year has an important bearing on the total number of recipients. During 1952-53 the number was 13,534 increasing to 18,392 in 1953-54, to 20,987 in 1954-55 and to 21,931 in 1955-56. During 1956-57 there were 22,616 recipients to whom federal pensions under the Old Age Security Act were granted.

Another factor of perhaps greater significance is the decrease in recent years in the number of applications. During the fiscal year 1953-54 the provincial authorities considered 35,946 applications, approving 30,416. For the fiscal year 1954-55 the number considered was 32,722 with 27,688 approved. There was a further decrease in the figures in 1955-56 to 30,509 and 25,820. During the fiscal year 1956-57 there were 29,060 applications considered and 24,423 approved.

There has been little variation from year to year in the federal expenditure, the amounts being \$19,128,837.37 for the fiscal year 1952-53, \$20,288,152.60 for 1953-54, \$20,869,126.09 for 1954-55, \$20,918,186.11 for 1955-56 and \$20,399,104.92 for 1956-57.

While the basic principles of the old age assistance plan are set forth in the Old Age Assistance Act, most of the administrative procedures are contained in the regulations made under the authority of the Act. The matter of laying down procedures is a joint responsibility of federal and provincial authorities. Discussions are carried on through an Advisory Board established by the Act. The members of the Board are appointed by the Governor in Council, each province recommending its two representatives. As a rule these are the Minister in charge of welfare and his Deputy or chief administrative officer. The federal representatives are the Minister of National Health and Welfare and the Deputy Minister of Welfare.

The Advisory Board met at Ottawa on November 5th and 6th, 1956, following preliminary discussions among administrators. The Board considered several proposed changes in the regulations referring to residence in and absence from Canada and the calculation of income, particularly income based on the value of personal property owned by an applicant or his spouse. The points under discussion had not been definitely settled at the close of the fiscal year so that there were no changes up to that date in the regulations which came into force on January 1, 1955.

The old age assistance plan operates under agreements between the Government of Canada and the governments of the provinces and territories. The Act provides that, in its agreement with Canada, a province may, among other things, specify the maximum amount of assistance that may be paid.

Following a change during 1956 in the agreement between Canada and the Province of Newfoundland, the agreements under the Old Age Assistance Act are now generally uniform. In its original agreement, Newfoundland specified \$360 a year as the maximum assistance payable. This amount was increased as from September 1, 1956, to \$480 a year which is the amount shown in all other agreements. The agreements have always allowed the amounts of maximum income in the Act, namely, \$720 a year in the case of an unmarried person, \$1,200 in the case of a married person and \$1,320 where the spouse is blind within the meaning of the Blind Persons Act. Except for the change in the case of Newfoundland, the agreements were not amended during 1956-57.

Towards the end of the fiscal year the Federal Government announced that it would seek amendments to the Act to increase, as of July 1, 1957, the amount of maximum assistance shareable with the provinces from \$40 to \$46 a month. The amounts of maximum income allowed, including assistance, were also to be increased to \$840 a year in the case of an unmarried person, \$1,380 in the case of a married person and \$1,740 in the case of a married person with a blind spouse. At the end of the fiscal year 1956-57, there was no legislative authority for the increases but shortly thereafter the Act was amended. Implementation of the increases will require amendments to agreements previously completed.

Statistics on old age assistance appear in the tables at the end of the report of this division.

## ALLOWANCES FOR BLIND PERSONS

Because the payment of allowances under the Blind Persons Act involves medical decisions as to the degree of blindness, federal administration of the Act is divided between the Welfare and the Health Branches of the Department of National Health and Welfare. The Chief of the Blindness Control Division is responsible for deciding from the reports of oculists employed by the Department whether each applicant is or is not blind. Some applicants who fail to qualify for allowances are, of course, ruled out by reason of a provision in the Act or regulations other than the medical test. During the fiscal year 1956-57 the provincial authorities approved 803 applications and declined 464. Of the latter group 309 failed to pass the medical test. The remaining 155 were found to be ineligible to receive allowances due to various reasons such as excess income, receipt of other forms of assistance and failure to provide information. There were 32 applications withdrawn and in 10 cases the applicants died before decisions were made.

Since the Blind Persons Act came into operation on January 1, 1952, there has been little variation in the number of recipients. Prior to the lowering of the qualifying age in 1955 from 21 to 18 years the number was actually decreasing. Even with the amendment the number varies within very narrow limits. As at March 31, 1957, there were 8,256 recipients. This figure is lower than the figure of 8,332 as at the end of the fiscal year 1952-53 but is slightly higher than the total of 8,230 as at the end of 1955-56. Federal expenditure for 1952-53 was \$2,985,217.00 decreasing to \$2,914,102.07 in 1953-54 and to \$2,886,184.15 for 1954-55. Following the amendments to the Act the federal expenditures for 1955-56 increased to \$2,918,494.13. For 1956-57 it was \$2,959,525.74.

In the preceding section reference was made to a meeting of an Advisory Board to consider a number of suggested amendments to the Old Age Assistance Regulations. While there are actually three Advisory Boards established by the Old Age Assistance Act, the Blind Persons Act and the Disabled Persons Act, in practice the three operate as one, the members, with only a few exceptions, being the same.

The regulations under the three Acts, while varying in certain of their provisions, are generally similar. Changes proposed in the Blind Persons Regulations related to the same points as in the Old Age Assistance Regulations. As in the case of the latter, final decisions on the proposals had not been reached by the end of the fiscal year 1956-57.

The plan for providing blindness allowances also operates on the basis of agreements made by the Government of Canada with the provinces and territories, the Government of Canada paying 75 per cent of the cost. The agreements provide, among other things, for the payment of a maximum allowance of \$480 a year. The maximum amounts of income allowed in all cases are the amounts specified in the Blind Persons Act being \$960 in the case of an unmarried person without a dependent child or children and \$1,160 with a dependent child or children, \$1,560 in the case of a married person and \$1,680 where the spouse is blind.

The announcement late in the fiscal year by the Government of Canada included reference to an increase, effective July 1, 1957, in the maximum allowance for blind persons from \$40 to \$46 a month. The amounts of maximum income allowed, including the allowance, were also to be increased, the new amounts being \$1,080 a year in the case of an unmarried person without a dependent child or children, \$1,560 in the case of an unmarried person with a dependent child or children, \$1,740 in the case of a married person and \$1,860 in the case of a married person with a blind spouse. There was no legislative authority for the increases as at March 31, 1957, but shortly thereafter the Blind Persons Act was amended. Implementation of the increases depends, of course, on agreements made previously with the provinces amending the agreement being completed.

Statistics regarding blind persons allowances are given at the end of this division's reports.

## ALLOWANCES FOR DISABLED PERSONS

As in the case of allowances for blind persons, responsibility for the federal administration of disabled persons allowances is shared by the Welfare Branch and the Health Branch of the Department. The provinces are responsible for granting allowances. However, before an allowance is granted, the applicant is certified by physicians employed by the province and by the federal government as being totally and permanently disabled. The financial part of the plan comes under the Old Age Assistance Division in the Welfare Branch and the medical part under the Medical Rehabilitation and Disability Advisory Division in the Health Branch. The plan came into operation on January 1, 1955.

The number of persons receiving disabled persons allowances increased from 26,027 as at March 31, 1956, to 31,835 as at March 31, 1957. Federal expenditure for the fiscal year 1955-56 was \$5,665,066.65 and for 1956-57 it was \$7,167,352.38. The cost of disabled persons allowances is shared equally by the federal government and the provinces.



In addition to the medical test, an applicant must fulfil certain requirements regarding age, residence and income. In their agreements with the Government of Canada the provinces have specified the age of 18 years and a maximum allowance of \$480 a year. The amount of income allowed, including the allowance, are the amounts specified in the Disabled Persons Act. These are \$720 a year in the case of an unmarried person, \$1,200 a year in the case of a married person and \$1,320 a year in the case of a married person living with a blind spouse.

With a few exceptions, including hospitals and nursing homes, allowances are not payable to persons in institutions.

During the fiscal year 1956-57, the provincial authorities dealt with 17,073 applications. Of this number 8,925 were approved, 7,564 declined and 584 not completed. Of the 7,564 declined there were 6,349 where the recipients were not considered as being totally and permanently disabled. The remaining 1,215 were found to be ineligible for several reasons, the most important one being excess income. Of the applications not completed, 388 were withdrawn by the applicants. In the other 196 cases the applicants died before decisions were made.

Certain specified expenses in connection with medical examinations are shared by the federal government provided there is an agreement between the federal government and the province authorizing such sharing. As at March 31, 1957, nine of the ten provinces had completed agreements of this kind.

The agreements with the ten provinces and the Northwest Territories completed in previous fiscal years continued in force without any change throughout the fiscal year 1956-57. With the completion of an agreement with the Yukon Territory in 1956-57, the plan for paying disabled persons allowances became operative in all parts of Canada.

Proposed changes in the Disabled Persons Regulations similar to those in the Old Age Assistance Regulations and the Blind Persons Regulations were considered by the Advisory Board in November of 1956. In addition the Board considered a revision of the definition in the regulations of the expression "totally and permanently disabled" and some relaxation of the restrictions on the payment of allowances to persons in hospitals and nursing homes. As in the case of the other two sets of regulations, final decisions had not been reached at the end of the fiscal year.

The announcement regarding changes in a number of welfare benefits included a reference to disabled persons allowances. The maximum benefit was to be increased effective July 1, 1957, from \$40 to \$46 a month and the income ceilings from \$720 to \$840 a year in the case of an unmarried person, from \$1,200 to \$1,380 in the case of a married person and from \$1,320 to \$1,740 in the case of a married person with a blind spouse. Legislative authority had not been provided at the close of the fiscal year but shortly thereafter the Disabled Persons Act was amended. Implementation by amending agreements with the provinces will be necessary to bring the changes into operation.

Statistics relating to disabled persons allowances are shown at the end of this division's report.

## OLD AGE PENSIONS

Even though the former Old Age Pensions Act ceased to be operative at the end of 1951 and was formally repealed on March 31, 1954 there continue to be a few miscellaneous transactions to report each year. In the fiscal year 1956-57 a number of old uncashed cheques turned up and were cashed, adding \$78.75 to the federal share of total expenditures made under this Act. On the other hand, the federal share of refunds received by the provinces from estate settlements and for other reasons amounted to \$1,155.82. This had the effect of reducing total federal payments under this Act from its inception in 1927 to March 31, 1957 by \$1,077.07, from \$836,844,964.68 to \$836,843,887.61. These totals include payments in respect of blindness, the total of federal payments under the former Old Age Pensions Act for persons 70 years of age and over was reduced from \$810,916,509.93 to \$810,915,432.86.

TABLE 42

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL  
FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES

For the Fiscal Year 1956-1957

Province	Number of Recipients	Average Monthly Assistance	Federal Payments 1956-1957
		\$ cts. March 1957	\$ cts.
Alberta.....	5,400	36 14	1,220,050 48
British Columbia.....	7,029	37 67	1,669,790 16
Manitoba.....	4,560	37 88	1,065,848 06
New Brunswick.....	5,624	36 92	1,276,064 34
Newfoundland.....	4,893	38 08	1,016,721 40
Nova Scotia.....	4,950	33 95	1,026,319 49
Ontario.....	20,744	36 93	4,677,967 96
Prince Edward Island.....	580	28 04	98,220 39
Quebec.....	31,031	37 47	7,159,030 50
Saskatchewan.....	4,963	37 11	1,159,832 81
Northwest Territories.....	102	37 96	22,619 33
Yukon Territory.....	31	40 00	6,640 00
Total.....	89,907	.....	20,399,104 92

TABLE 43

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL  
FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES

For the Fiscal Year 1956-1957

Province	Number of Recipients	Average Monthly Allowance		Federal Payments 1956-1957	
		\$	cts.	\$	cts.
	March 31, 1957	March 1957			
Alberta.....	418	39	25	151,070	53
British Columbia.....	482	39	17	169,386	75
Manitoba.....	402	39	60	147,725	00
New Brunswick.....	719	39	53	258,382	33
Newfoundland.....	370	39	47	132,571	63
Nova Scotia.....	714	39	25	258,095	42
Ontario.....	1,713	39	09	613,257	34
Prince Edward Island.....	90	37	38	31,267	43
Quebec.....	2,918	39	32	1,046,322	67
Saskatchewan.....	399	38	80	141,839	14
Northwest Territories.....	25	38	60	7,447	50
Yukon Territory.....	6	40	00	2,160	00
Total.....	8,256			2,959,525	74

TABLE 44

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE, AND TOTAL FEDERAL PAYMENTS, UNDER THE DISABLED PERSONS ACT, BY PROVINCES

For the Fiscal Year 1956-1957

Province	Number of Recipients	Average Monthly Allowance	Federal Payments 1956-1957
		\$ cts.	\$ cts.
	March 31, 1957	March 1957	
Alberta.....	1,245	38 17	276,592 78
British Columbia.....	1,067	39 01	227,925 98
Manitoba.....	819	39 23	192,866 81
New Brunswick.....	1,262	39 43	281,859 33
Newfoundland.....	720	39 44	163,166 73
Nova Scotia.....	1,465	35 69	290,339 18
Ontario.....	8,065	39 27	1,853,110 35
Prince Edward Island.....	345	33 94	65,690 12
Quebec.....	15,856	38 97	3,593,395 01
Saskatchewan.....	988	38 68	221,966 09
Northwest Territories.....	3	40 00	440 00
Yukon Territory.....			
Total.....	31,835		7,167,352 38



TABLE 45  
RECAPITULATION OF FEDERAL PAYMENTS FROM INCEPTION OF DISABLED PERSONS ACT

Fiscal Year	Alberta	British Columbia	Manitoba	New Brunswick	Newfoundland	Nova Scotia	Ontario	Prince Edward Island	Quebec	Saskatchewan	Northwest Territories	Yukon Territory	Total
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
1954-55.....	290,947 34	115,520 91	8,187 93	8,183 06	119,325 53	12,141 04	389,060 94	56,702 54	2,561,940 99	1,805 87			419,378 84
1955-56.....			172,349 71	218,643 94		254,325 87	1,712,425 98			162,883 82			5,665,066 65
1956-57.....													
April 1956.....	21,845 59	15,468 84	15,948 50	22,180 76	12,288 05	20,998 90	147,315 01	4,980 96	255,649 91	16,526 54			533,203 06
May 1956.....	21,900 31	17,260 22	15,713 79	21,379 10	12,855 31	21,683 40	150,311 67	5,089 41	276,451 83	16,234 97			558,880 01
June 1956.....	21,126 95	17,656 17	15,201 82	23,042 49	12,969 53	22,295 75	151,774 47	5,029 10	281,579 04	17,660 10			568,335 46
July 1956.....	22,716 37	18,209 46	16,151 73	22,278 05	13,172 01	23,004 79	154,549 90	5,294 90	284,698 60	18,038 64			578,203 99
August 1956.....	22,364 85	18,170 67	15,683 94	22,138 79	13,077 95	24,131 45	151,168 96	5,076 87	293,921 38	19,784 21	60 00		587,584 07
September 1956.....	23,096 08	18,561 58	17,496 22	23,154 17	14,319 48	24,873 81	155,140 87	5,423 97	300,582 13	17,871 27	20 00		600,539 58
October 1956.....	23,994 13	19,289 47	15,946 31	24,501 72	13,689 51	24,599 65	154,782 01	5,440 67	306,025 41	18,398 05	20 00		606,686 94
November 1956.....	23,737 20	20,112 70	16,204 05	23,713 00	14,238 34	24,881 50	156,428 18	5,673 40	308,592 58	18,461 25	100 00		612,142 20
December 1956.....	23,456 89	20,315 45	15,930 12	24,619 40	14,025 91	25,446 31	158,351 40	5,788 17	314,761 09	18,716 00	60 00		621,470 79
January 1957.....	23,779 20	20,870 95	16,094 75	24,466 28	14,321 80	25,935 49	156,189 72	5,977 72	326,097 52	19,898 96	60 00		633,692 63
February 1957.....	24,157 22	21,037 54	15,991 27	25,304 87	14,251 48	25,811 98	158,282 80	6,072 37	321,392 53	19,442 83	60 00		631,804 89
March 1957.....	24,417 79	20,972 91	16,499 27	25,080 70	13,957 31	26,586 11	158,815 84	5,842 58	321,642 99	20,933 26	60 00		634,808 76
Total 1956-57.....	276,592 78	227,925 98	192,886 81	281,859 33	163,166 73	290,339 18	1,853,110 35	65,690 12	3,593,395 01	221,966 09	440 00		7,167,352 38

## FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION

One of the most interesting occurrences affecting the Family Allowances and Old Age Security programs which took place during the year ended March 31, 1957, was the announcement by the Government, just prior to the year-end, of the proposed increase in rates of payment of both Family Allowances and Old Age Security pensions. It was proposed that the authority of Parliament be sought (1) to increase Old Age Security pensions from \$40 to \$46 monthly, the contemplated effective date being July, 1957; and (2) to increase Family Allowances for children from birth to six years of age from \$5 to \$6 per month, and for children from ten to thirteen years of age from \$7 to \$8 per month, the contemplated effective date of these increases being September, 1957. The change in Family Allowances rates, when made effective, will mean that instead of a total of four different rates of payment between birth and sixteen years of age, there will be only two, \$6 monthly from birth to age ten, and \$8 monthly from age ten to age sixteen.

Apart from these announcements as to changes in rates, the past year has brought continued expansion in the two programs administered, with no outstanding changes in either. There were 2,339,203 active Family Allowances accounts maintained in Regional Offices at March 31, 1957, an increase of 62,636 over the number maintained at March 31, 1956. The number of Old Age Security accounts maintained at the end of the year was 806,529, as against 779,569 at the end of the previous year, an increase of 26,960. In both cases, the increase was somewhat less than that found when comparing the figures for March, 1956 and March, 1955. The number of accounts maintained, 806,529, exceeds those actually in pay, 797,486, due to the fact that some 9,000 pensioners were out of Canada at the time and resumption of pension payments awaited their return.

### **Staff and Accommodation**

During the year 1956-57 there were two changes of Regional Directors. Mr. P. H. Stehelin, who had been Regional Director in Nova Scotia ever since the inception of the Family Allowances program in 1945, left the Division to assume a position in the Civil Defence Division of the Department. He was replaced, as the result of a promotional competition, by Mr. J. G. Parsons, who had been Regional Director in Newfoundland. Another promotional competition was held to fill the vacancy left by Mr. Parsons, resulting in the appointment of Mr. J. C. Abbott as Regional Director in Newfoundland.

The number of employees on the staff of the Division at the end of March, 1957 was 837, an increase of 8 over the number on strength at the end of the previous year. As in other years, there was a fairly large turn-over in staff in a number of Regional Offices.

While the shortage of professional social workers for Regional Offices became somewhat less acute during the past year than it had been during the year just preceding, there remained vacant at the end of March, 1957, six junior social worker positions. The shortage of social workers across Canada continues.

With regard to accomodation occupied by Regional Offices, one move was made during the past year and arrangements were made for others in the near future. The office in Charlottetown, Prince Edward Island, was moved to the new Confederation Building in that city, where the quarters are much more satisfactory than the previous ones. During the coming year, it is expected that the offices in Halifax and Edmonton will be moved to new locations in those cities. It is expected also that new space will be available for the Toronto office before too long.

### **Costs of Administration**

The following is a comparison between the costs of administering the Family Allowances and Old Age Security programs in the fiscal years 1955-56 and 1956-57:

	Department of National Health and Welfare	Department of Finance (Treasury)	Department of Public Works	Total
1955-56 .....	\$2,533,393.19	\$3,600,124.25	\$352,166.82	\$6,485,684.26
1956-57 .....	2,727,169.00	3,753,550.04	343,511.29	6,824,230.33

The total cost of administering the two programs in the past year was .87% of the total expenditures of Family Allowances and Old Age Security.

It should be noted that of \$3,753,550.04 Finance Treasury costs, \$1,792,809.83 were expended for postage on cheques. This amounted to 48% of the total Treasury costs.

### **Welfare Services**

The continued shortage of qualified social workers has again placed an extra burden on the senior social workers in the Regional Offices. Notwithstanding these staff shortages, continued emphasis has been placed on strengthening the relationships between this administration and the child caring agencies across Canada. The department is most appreciative of the sincere effort put forth by the staffs of these extremely busy agencies in the handling of Family Allowances for the children in their care. As the result of careful planning on the part of child caring agencies in Canada, some 45,000 children who are not in their own homes receive maximum benefit from Family Allowances paid on their behalf.

In Old Age Security, the welfare sections are continuously in touch with the numerous institutions in Canada caring for older people. These contacts are extremely helpful in interpreting to both pensioners and institutional personnel the policies of the department with respect to the payment of Old Age Security.

### **Family Allowances Payments**

The increases in the numbers of families and children receiving allowances and in the expenditures in March, 1957, over those in March, 1956, are shown in the following table:

	No. of Families	No. of Children	Expenditures
March, 1957 .....	2,326,891	5,571,436	\$33,717,024
March, 1956 .....	2,263,618	5,377,436	32,490,329
Increase .....	63,273	194,000	\$ 1,226,695

Total net payments for the fiscal year 1956-57 were \$397,517,840, an increase of \$14,982,814 over those for the fiscal year 1955-56. Tables I and II appended hereto give additional details regarding payments of allowances.

It is interesting to make a comparison between the numbers of families and the numbers of children receiving Family Allowances in the two most heavily populated provinces. In March, 1957, the numbers of both were larger in Ontario than in Quebec. While the amount paid in Quebec was slightly greater than that paid in Ontario, this was due to the higher average age of the children in Quebec.

### *Overpayments*

Once again the total amount of overpayments outstanding at the end of the year was considerably less than at the end of the previous year. These amounted to \$177,423.90 at March 31, 1957, as against \$201,254.45 at March 31, 1956, and this despite the fact that during the past year more than \$390,000,000 were paid in Family Allowances.

The total amount listed as outstanding at the end of any year is the balance of all overpayments established since the beginning of payment of Family Allowances in 1945 minus the collections which have been made and certain lesser amounts deleted by the authority of Treasury Board as being uncollectable. Table III appended hereto shows a breakdown by a category of the overpayments outstanding at March 31, 1957.

### *School Attendance and Employment*

As has been reported previously, all indications are that the Family Allowances program has had a decidedly good effect on the attendance at school of children in Canada. During 1956-57, the number of children who lost allowances for one month or more because of non-attendance at school was 9,953. This was an increase of 1,289 over the number who lost allowances in the preceding year. The school population of Canada has grown rapidly, and it is known that reporting absences by educational authorities continues to improve. It can be concluded that there is a continuing rise in average school attendance.

With regard to the loss of Family Allowances for one month or more during the year for children who were employed, here also there was an increase in the number in 1956-57 as compared with the number in 1955-56. The figure for the earlier year was 19,730, and for the year just ended 22,497. Again this year, it may be assumed, as was mentioned last year, that the continuing rise may be a reflection of the expanding economy of Canada, with the consequent increase in opportunities for employment.

### *Old Age Security Payments*

Old Age Security pensions were paid in March, 1957, to 797,486 pensioners. This was an increase of 25,733 over the number who received pensions in March, 1956. Total net payments for March, 1957, were \$31,910,703 as against \$30,859,934 for March, 1956. For the fiscal year 1956-57, total net payments were \$379,111,374. Table 49 appended hereto gives further details regarding payments of Old Age Security pensions.

### *Overpayments*

During the year, certain payments made to pensioners were subsequently considered to have been paid improperly. The reason for these being considered as overpayments, in the majority of cases, was the fact that pensioners were ineligible for certain months because of absence from Canada. These overpayments were added to those outstanding from previous years. Recoveries were made of



some current and some earlier overpayments. At the end of March, 1957, the total amount outstanding was \$37,592 as compared with \$41,303 at the end of March, 1956.

### *Proof of Age*

In the large majority of cases in which applications for pension were approved during the past year, primary evidence of age, in the form of a birth or baptismal certificate, was available. Amongst the remainder, there were many where other types of evidence were found acceptable. There remained the problem cases where satisfactory documentary evidence of age could not be obtained. In these cases, numbering 559, recourse was had to tribunal proceedings, which are provided for in the Old Age Security Regulations. In 413 of these cases, the results were favourable to the applicant, in 146, unfavourable.

The administration of Family Allowances and Old Age Security pensions, with continued expansion in both programs in the past year, was facilitated by the continued high standard of the work of all of the staff of this Division and the splendid co-operation received from the Chief Treasury Officer and his staff.



TABLE 47

## NET FAMILY ALLOWANCES PAYMENTS—COMPARISON BY FISCAL YEARS

Province	1946-47		1947-48		1948-49		1949-50		1950-51		1951-52	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Newfoundland	2,192,044 00		2,256,477 00		2,295,286 00		9,747,030 00		10,224,103 00		10,613,908 00	
Prince Edward Island	13,358,417 07		14,207,957 82		14,515,131 00		2,411,291 00		2,467,257 00		2,495,987 00	
Nova Scotia	11,394,426 02		12,086,891 93		12,462,093 00		15,291,614 07		15,660,003 27		15,949,540 73	
New Brunswick	82,389,966 72		87,157,243 46		89,304,108 45		13,375,434 33		13,708,198 00		13,892,907 00	
Quebec	70,325,914 70		77,328,534 50		80,151,249 69		95,901,763 15		99,558,247 04		102,883,811 56	
Ontario	14,007,061 21		14,798,436 82		15,016,277 72		84,940,808 63		89,034,870 53		93,207,144 30	
Manitoba	18,119,791 87		18,561,329 55		18,527,400 22		15,668,695 50		16,235,519 56		16,703,466 69	
Saskatchewan	17,159,488 00		18,012,662 50		18,695,325 00		18,668,599 79		19,237,070 80		19,424,561 76	
Alberta	15,722,045 50		18,012,188 75		19,347,836 58		19,822,386 97		20,762,273 29		21,573,429 99	
British Columbia	471,376 50		574,470 00		595,063 00		20,813,661 00		21,952,569 36		23,063,642 85	
Yukon and N.W.T.							587,749 50		625,348 67		649,273 15	
NATIONAL	245,140,531 59		263,165,192 33		270,909,778 86		297,514,033 94		309,465,460 52		320,457,673 03	

Province	1952-53		1953-54		1954-55		1955-56		1956-57	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Newfoundland	11,038,874 49		11,497,719 33		11,967,775 00		12,414,789 00		12,881,415 00	
Prince Edward Island	2,522,830 00		2,558,097 00		2,590,704 00		2,621,722 00		2,640,585 00	
Nova Scotia	16,297,169 95		16,716,374 00		17,047,920 00		17,596,684 40		17,973,392 00	
New Brunswick	14,287,535 05		14,700,819 00		15,073,324 00		15,451,544 00		15,779,360 00	
Quebec	107,084,124 36		111,441,301 49		116,057,182 00		120,389,837 92		124,368,344 00	
Ontario	98,303,868 20		104,409,819 41		110,492,480 00		116,604,314 27		122,539,123 00	
Manitoba	17,283,659 61		17,979,853 88		18,705,349 00		19,418,713 24		19,888,717 00	
Saskatchewan	19,723,352 42		20,244,540 00		20,894,790 00		21,401,114 00		21,644,971 00	
Alberta	22,575,583 60		23,958,080 50		25,390,585 00		26,732,793 00		27,953,311 00	
British Columbia	24,399,858 81		25,904,496 28		27,405,872 00		29,097,077 14		31,029,472 00	
Yukon and N.W.T.	680,828 30		702,801 30		739,983 00		786,437 15		819,150 00	
NATIONAL	334,197,684 79		350,113,902 19		366,465,964 00		382,535,026 12		397,517,840 00	

TABLE 48  
OVERPAYMENTS OF FAMILY ALLOWANCES  
March 1957

(The overpayments may have occurred at any time between July 1, 1945 and March 31, 1957)

Province	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments Considered Uncollectable		Total Overpayments Outstanding	
	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.
Newfoundland.....	40	934 00	32	1,034 00	31	740 50	103	2,708 50
Prince Edward Island.....	17	665 00	10	258 00	2	29 50	29	952 50
Nova Scotia.....	78	1,643 00	118	3,704 00	42	1,120 25	238	6,467 25
New Brunswick.....	31	1,082 00	69	1,095 00	83	4,018 00	183	6,195 00
Quebec.....	396	19,863 69	792	41,069 00	480	37,939 34	1,668	98,872 03
Ontario.....	176	8,269 00	387	12,272 52	349	9,488 99	912	30,030 51
Manitoba.....	39	866 00	72	1,543 00	47	1,770 00	158	4,179 00
Saskatchewan.....	35	1,990 00	73	3,719 00	39	1,812 00	147	7,521 00
Alberta.....	73	1,613 00	118	3,119 00	73	3,291 50	264	8,023 50
British Columbia.....	97	4,135 00	63	2,180 61	93	3,372 00	233	9,687 61
Yukon and N.W.T.....	9	300 00	57	1,989 00	7	498 00	73	2,787 00
NATIONAL.....	991	41,360 69	1,791	71,983 13	1,246	64,080 08	4,028	*177,423 90

\*In addition to this amount outstanding, there has been deleted as uncollectable by Treasury Board authority between July 1, 1945 and March 31, 1957, a gross amount of \$150,127.71.



TABLE 49  
STATISTICS ON OLD AGE SECURITY

Province	Number of Pensioners in Pay March, 1956	Net Payment for March, 1956 only	Total Net Payment for Fiscal Year Ended March 31, 1956	Number of Pensioners in Pay March, 1957	Net Payment for March, 1957 only	Total Net Payment for Fiscal Year Ended March 31, 1957
Newfoundland.....	15,973	\$ 637,271	\$ 7,597,278	16,248	\$ 647,589	\$ 7,738,205
Prince Edward Island.....	6,884	275,135	3,313,850	6,993	280,770	3,371,370
Nova Scotia.....	38,212	1,532,309	18,402,263	38,860	1,567,071	18,706,153
New Brunswick.....	27,513	1,103,493	13,239,262	28,170	1,129,912	13,528,005
Quebec.....	163,173	6,501,893	77,018,242	168,407	6,709,157	79,650,588
Ontario.....	283,171	11,307,362	134,623,020	291,493	11,634,495	138,792,796
Manitoba.....	46,396	1,854,783	21,945,850	47,908	1,920,144	22,842,472
Saskatchewan.....	47,101	1,893,122	22,323,671	48,984	1,971,771	23,334,799
Alberta.....	48,163	1,933,548	22,670,527	50,524	2,030,276	23,942,472
British Columbia.....	94,611	3,798,116	44,635,293	99,320	3,994,133	46,923,834
Yukon and N.W.T.....	556	22,902	268,326	579	25,385	280,680
NATIONAL.....	771,753	30,859,934	366,037,582	797,486	31,910,703	379,111,374

# CIVIL DEFENCE

## **General**

The function of Civil Defence is to minimize the effects of disaster upon the population of Canada and upon the property of the Canadian people; to take measures to reduce loss of life, and to provide medical, welfare and other assistance to the civilian population. To carry out a program of such magnitude requires the strength and resources of the entire nation and necessitates a division of responsibility between federal, provincial and municipal governments.

Civil Defence is the assurance of the maintenance of normal community services and for this reason the main operational responsibility, apart from overall plans, training and co-ordination, must fall on those local municipal agencies who carry the day-to-day responsibilities of maintaining the normal amenities of life in Canada's urban communities.

Since Civil Defence must centre on local organization and action, the role of the federal government is largely that of a guiding, directing and co-ordinating agency whose job it is to help ensure that adequate planning and organization is maintained on provincial and local levels; that key personnel and instructors are trained in the various specialized fields; and that sufficient supplies of key materials and equipment, required exclusively for Civil Defence purposes, are made available on the operational level.

To this end, federal Civil Defence authorities continued to press forward during the fiscal year 1956-57. The tempo of training key Civil Defence instructors and others was stepped up. The Financial Assistance Program was implemented to a greater degree than heretofore. All services continued to develop organizational, functional and operational plans essential in the event of a national disaster. Continued assistance was given to provinces and communities in establishing their Civil Defence Welfare and Health Services organizations. Considerable progress was made during the year with respect to warning and communications services and to evacuation planning.

## **Compensation Agreements**

All provinces, with the exception of Nova Scotia, Quebec and Prince Edward Island have executed Compensation Agreements with the federal government permitting compensation to be made on a fifty-fifty sharing basis for death or injury, while in training, to enrolled Civil Defence workers.

## **Financial Assistance Program**

As of the 31st of March, 1957, all provinces, with the exception of Quebec and Prince Edward Island were participating with the federal government in the Civil Defence Financial Assistance Program. Of the \$2,000,000 provided for assistance to provinces, for Civil Defence purposes, \$974,795 was committed against federally-approved projects of \$2,186,501 and actual payments to provinces and municipalities totalled \$813,685.32. It should be noted that, for the first time since the inception of this program, two municipalities in Quebec (Lachine and St. Lambert) submitted projects totalling \$4,250 and are entitled to recover

25% of their approved Civil Defence expenditures. Additional municipalities in Quebec are expected to participate during the ensuing year. Provincial quotas, participation of municipalities, provinces and the federal government are tabulated below together with the total of projects approved, by provinces, and payments made in connection therewith. It should also be noted that the tabulation indicates a substantial increase in participation in this program over the previous year when the federal commitment was \$757,724 with payments at \$646,622.

TABLE 50  
FINANCIAL ASSISTANCE PROGRAM 1956-57  
(All Amounts to Nearest Dollar)

Province	Quota	Municipal	Provincial	Federal	Total	Payments
	\$	\$	\$	\$	\$	\$
Nfld.....	45,863	.....	39,750	39,750	79,500	32,960
P.E.I.....	10,827	.....	.....	.....	.....	.....
N.S.....	92,128	12,884	32,000	39,091	83,975	25,158
N.B.....	63,777	6,579	25,229	31,807	63,615	20,928
Que.....	603,356	3,190	.....	1,060	4,250	.....
Ont.....	692,036	172,467	305,593	432,445	908,505	348,247
Man.....	117,286	27,223	48,345	58,409	133,977	31,659
Sask.....	91,490	24,975	60,264	66,039	151,278	48,540
Alta.....	118,922	33,988	122,837	118,922	275,747	118,922
B.C.....	187,272	180,910	115,472	187,272	485,654	187,272
Totals.....	2,000,000	462,216	749,490	974,795	2,186,501	813,686

Provinces may become eligible for their respective quotas on submission of projects either provincial or local for the improvement and strengthening of Civil Defence. Under the terms of this program, where a project is,

A) federal/provincial—the federal contribution is on a matching basis.

B) federal/provincial/municipal—the federal contribution may be:

(a) federal —50%

(b) provincial —25%

(c) municipal —25%

or the federal government will contribute a basic 25% and, in addition, match the provincial contribution to a maximum federal contribution of 50%.

C) federal/municipal—

(a) federal —25%

(b) municipal —75%

For expenditures on approved projects which have a peacetime use, the federal government will match the provincial contribution only.

### **Hose Coupling Standardization Program**

The federal government is committed by federal/provincial agreements to meet one-third of the cost of standardization of hose couplings in British Columbia, Alberta and Ontario with the federal share of the programs to be as follows:

Ontario .....	\$367,000
British Columbia .....	92,000
Alberta .....	60,000

The programs for Ontario and Alberta were completed prior to 31st March, 1956. The British Columbia program will be completed during the summer of 1957.

### **Provincial Exercises**

During the summer of 1956, the Provinces of British Columbia and Alberta conducted extensive Civil Defence exercises for the purpose of bringing home to the populations of these provinces the need and purpose for preparation. In each case, the federal government agreed to meet 50% of the costs in connection therewith to a maximum of \$6,556.

### **Information Services**

Three specific fields must be considered when reporting on the activities of Information Services with regard to Civil Defence. These include news media relations, liaison with other Civil Defence groups and educational work.

*News Media Relations:* During the year, the second Newsmen's Conference was held at the Canadian Civil Defence College, attended by senior editors and publishers from daily and weekly newspapers, radio and television program directors and commentators. Excellent publicity and news coverage relating to Civil Defence resulted from this conference.

Similarly, the division produced a series of twenty-four illustrated articles on Civil Defence which were circulated to 650 English and French members of the Canadian Weekly Newspaper Association across Canada. An estimated 40% of the newspapers used these articles in whole or part.

Day to day contact with news media representatives consisted of preparing press releases, arranging for press conferences, radio interviews and live television news coverage, answering inquiries, writing specific articles on Civil Defence for trade journals, house organs and similar publications, arranging for photographic coverage, and completing general public relations duties as required.

*Liaison:* Continual contact was maintained between the division and its counterpart in the U.S. Federal Civil Defence Administration, with NATO Civil Defence Public Affairs, and with the offices of the provincial co-ordinators.

Samples of all Civil Defence material produced by the division were circulated among the provincial co-ordinators so they could order quantities necessary to promote Civil Defence in their provinces. Liaison visits were made to provincial offices and, on request, to assist municipal directors with specific promotion.

*Educational:* This special activity, not normally associated with public information, includes the conception and production of films, filmstrips, newsclips, pamphlets, training aids and manuals, charts, maps, displays and lecture and visual aids.

During the year, one filmstrip for rescue training was completed; one newsclip on evacuation was completed and another on fallout and shelters planned;



a new series of training charts on general Civil Defence training was completed and a third chart series on radiological training contemplated; also, a new poster series, accenting the theme "Trained Hands Minimize Disaster", was produced.

In addition to a large reprint program of several of the Civil Defence pamphlets and manuals, the following were produced: a new Speaker's Kit; Civil Defence College Prospectus; a Home Nursing Manual; Management of Emergency Delivery; the H-Bomb and Civil Defence; Tell the Public; Civil Defence Notebook; a College lecture pad and a special supplement to "*Canada's Health and Welfare*".

Twenty Civil Defence displays are now available through this division to provincial and municipal organizations. During the fiscal year, nearly all of these displays were used throughout the summer months at fairs, exhibitions, and conventions. Approximately one-and-a-half million pieces of literature were distributed in conjunction with these displays, which were exhibited in the majority of the provinces, and through provincial and municipal outlets. The Civil Defence radio series continued during the year, 12 programs being aired over 104 English and French stations across Canada.

For the fifth consecutive year, the *Federal Civil Defence Bulletin* was produced and circulated among 15,000 volunteers across Canada. Similarly, special photo stories and special articles on specific phases of Civil Defence training were produced and distributed in conjunction with this bulletin.

Initial preparations were made for the observance of National Civil Defence Day and planning was started on a new series of Health Services pamphlets.

### **Planning**

The Planning Section, authorized on 1st April, 1955, completed its establishment during 1956, by the addition of the Engineer Planner and a Communications Planning Officer.

At the beginning of the year, a *Guide to Survival Planning* was drawn up and issued to all provincial co-ordinators. Later in the year, the Section commenced the preparation of first key plans for the dispersal of five of the thirteen main urban areas in Canada, viz: Ottawa, Saint John, Toronto, Winnipeg and Vancouver. Ottawa and Saint John projects were completed and projects for the remaining three cities commenced. Visits were made to the areas concerned to collect data and for joint consultation with provincial and municipal planning staffs prior to working out first key plans.

The object of these studies was to consider the solution of the main problems involved in evacuating their main urban areas and dispersing the population to reception areas; together with problems of reception. Another requirement was to provide a format of a main urban area dispersal plan which could be used as a guide by all provinces.

At the request of the Province of Manitoba, the Federal Planning Section drafted a disaster plan to deal with floods in the Winnipeg area. The outline plans were drawn up by the Manitoba Volunteer Chiefs of Services. The plan has now been published in book form and issued to other provinces as a guide.

Considerable progress has been made in the development of engineer planning and a start in co-ordinating engineering effort on a national basis has been made by the formation of an Advisory Engineer Committee drawn from the major national engineering associations.

### **Transportation**

Activities continued to be vigorously and effectively carried on in determining the national transportation requirements for all classes of transportation in relation to its use in Civil Defence generally and in furthering the organization of this strength for maximum effectiveness in service under emergency conditions.

Transportation committees and forums under federal arrangements and participation progressed energetically and productively.

Maintenance of close co-operation with U.S. Federal Civil Defence transportation officers was kept up in exchanging information on knowledge, planning and practices.

### **Warning and Communications**

The Civil Defence warning network has been maintained and subjected to monthly tests.

One hundred high power sirens were purchased and will be used to augment siren coverage for designated Target Areas. Twenty-five were issued to Toronto, of which seven have been installed and tested.

A contract was placed for ten transportable broadcast transmitters for full-scale field trials of a proposed Civil Defence emergency broadcasting plan. Delivery is anticipated in year 1957-58.

Progress has been made with establishing provincial and municipal Civil Defence radio networks.

Liaison with U.S. Federal Civil Defence Administration has been maintained through the Communications Working Group of the Joint U.S./Canada Civil Defence Committee.

Agreement has been reached by the Working Group on frequency allocations to avoid mutual interference and the problem of trans-border communications is being studied.

### **Welfare**

The Welfare Planning Group continued to develop plans for the provision of Mass Care Services in an emergency.

With attention being directed increasingly to preparation of plans for this evacuation of the population of the 13 Canadian urban centres designated as principal target areas, emphasis shifted to planning welfare services in reception areas. In several provinces reception plans in rural areas were begun, and Welfare Services provided guidance and assistance wherever possible.

During the year a number of specialist welfare courses in fields of feeding, registration and inquiry, clothing and personal services were given by the welfare group at the Canadian Civil Defence College.

Provincial training schools received assistance from the federal welfare group in conducting welfare services and lodging.

Conferences were held with provincial Civil Defence welfare specialists in the fields of personal services and lodging.

The directors and representatives of the staff of eight schools of social work in Canada conferred with the Civil Defence Welfare Group to consider the introduction of Civil Defence in their school curricula. As a result, interest of great benefit to Civil Defence was created in student and professional bodies throughout the country.

The matter of emergency food kits was explored further by a committee of experts in nutrition, production and packaging. As a result, a decision was arrived at as to composition and packaging of a 3-day kit.

During the year, more importance was placed on Civil Defence planning which necessitated the addition of a Welfare Planning Officer to the group.

A representative of welfare visited Great Britain for the purpose of studying Civil Defence Welfare Services there.

The Canadian Welfare Group met with the U.S. Welfare Group at Battle Creek, Michigan. Information was exchanged and much benefit accrued to both groups.

An observer participated in the welfare exercise at Portland, Maine, and evacuation and reception area discussions at Penticton and Courtenay, British Columbia, and Halifax, Nova Scotia.

### **Civil Defence Health Services**

In the Health Services field, emphasis was placed during the year on the revision and settlement of principles and procedures effected by newer weapon development. Most of the pertinent information was received; and insofar as most health aspects were concerned, it was possible to start the preparation of informative material which, for the first time in comparative settled terms, will describe with authority comprehensive protective and remedial procedures and methods of implementation.

Much new information has recently become available, particularly in respect of atomic and biological warfare defence. Studies in these fields were directed chiefly towards the hazards from radioactive fallout, and insofar as biological warfare is concerned, towards the development of adequate methods of reporting on communicable diseases under wartime conditions. Studies conducted indicate that a disease identification and reporting system should be adapted to both biological warfare agents and diseases occurring naturally in a disturbed population. Recommendations which will evolve will include the introduction, on a trial basis, of an inexpensive "listening post" laboratory system for detecting normal and abnormal disease patterns throughout the country.

Appreciable headway was made during the year towards meeting the problem of the vulnerability of existing hospitals in the event of enemy action. Civil Defence health authorities in Canada shared the view of planners in other western countries that a system of improvisation was essential. Very substantial progress was made during the year in the development of techniques for the evacuation of patients from hospitals and in the provision of alternate hospital facilities for populations removed from large centres of population. In this respect Canada assumed the lead amongst western planners in undertaking the preparation of instructional information useful to hospitals throughout Canada attempting to evacuate patients under emergency conditions. The material was developed after a conclusive practical test carried out in the form of a time-motion study at Vancouver, during which some 100 simulated patients were removed from St. Paul's Hospital and transported to improvised facilities some fifteen miles away. In this study the staff of St. Paul's Hospital and local and provincial Civil Defence authorities co-operated, and from data obtained from official observers it was possible to prepare a statement of procedure which could be applied, with fairly consistent effectiveness, to hospitals of various sizes.



Civil Defence Health Services completed other work related to hospital preparedness in designing a portable 200-bed improvised hospital to meet Canadian conditions. The U.S. prototype of this hospital was adapted to Canadian needs and subjected to practical field tests and to a functional trial when used in conjunction with the time-motion study at Vancouver referred to above. Preliminary estimates of cost and preliminary packaging specifications reached an advanced stage of completion by the year-end. An indication of the practicability of this unit was the keen interest shown by medical authorities of the Department of National Defence in its development and in the results of its tests. It is possible that the design may have utility value for other than Civil Defence purposes.

Training programs for members of the medical and paramedical professions continued during the year. Courses were provided at the Canadian Civil Defence College for physicians and dentists, pharmacists, nurse specialists as well as for casualty simulators and casualty simulation instructors. Training in the art of casualty simulation, as an aid to first aid and other medical training, reached a point during the year at which it was possible for casualty simulation instruction to be continued at provincial level. The Departments of Defence in both Canada and the United States have recognized the value of high standard casualty simulation training; the Department of National Defence of Canada have requested limited instructor training at the Canadian Civil Defence College and inquiries have been received from the Department of the Army in the United States as to the possibilities of limited training being extended to certain of their personnel. The Casualty Simulation Manual, developed in Canada, is being ordered by United States authorities for distribution to all schools of medicine in the United States. All schools of pharmacy in Canada now include instruction in Civil Defence in their curricula as do hospitals and university schools of nursing in nine of the ten provinces. Due largely to the continued liaison maintained by officers of Civil Defence Health Services, certain faculties of medicine in Canada have already accepted as a matter of policy the inclusion of Civil Defence subjects in their curricula; and the progress of work in this regard indicates that other faculties of medicine would likewise accept this policy in principle and would implement it to a limited degree at least. The extension of Civil Defence training to undergraduates in these professions, particularly in the nursing profession has had the unexpected but important effect of creating an intelligent awareness of Civil Defence philosophy in large bodies of students whose professions should win for them respect and confidence.

The beneficial effects of maintaining active liaison with those within municipal organizations responsible for the maintenance of public health became more evident during the fiscal year under review. Lectures were given and discussions conducted with municipal public health authorities; and it became evident that the development of public health plans and their eventual implementation, a most complex and difficult phase of Civil Defence Health Services study, was likely now to progress in a more satisfactory manner.

To bring to the attention of the medical profession of Canada recent planning and implementation of Civil Defence subjects a special issue of the Canadian Medical Association Journal was published March 1, 1957. This is the second time that an issue of the Journal has been made available to Civil Defence Health Services for general educational purposes; and it offered an opportunity to revise earlier concepts.



The purchase and stockpiling of essential medical supplies for Civil Defence continued at an accelerated rate. Adjustments necessitated through certain changes in Civil Defence to meet higher yield weapon situations were made and deliveries in all areas expedited. By year-end approximately two-thirds of the proposed stockpile had been ordered and specifications for most of the remaining items settled. At the same time very substantial progress was made in the development of instructions for the management of Civil Defence health supplies at all levels and in the indoctrination of pharmacist groups in these complex procedures.

### **Civil Service Civil Defence (Ottawa)**

The year 1956-57 might be called one of consolidation for Civil Service Civil Defence during which the effort was directed towards holding the position gained in the initial years rather than to increase the number of persons indoctrinated.

There was during the year quite a considerable movement of Civil Service employees from former places of employment into either new buildings or different buildings entailing, in some cases, realignment of departmental occupancy or in others re-organization of staff. Such movements call for, in many cases, complete reforming of Civil Defence teams and leaders. However the emphasis of instructional work in Civil Service Civil Defence has been on Emergency Planning in line with the national plan for Ottawa.

Civil Service Civil Defence stands in a good position with its First Aid teams as many of the members hold superior qualifications. A number have gained practical first hand experience of disaster techniques by actively participating in Advanced Treatment Centre demonstrations staged by Civil Defence Health Services. There is however a considerable backlog of would-be trainees in Home Nursing and First Aid.

Fifty members of C.S.C.D. took initial courses in Monitoring (radiological theory) and completed their practical work at the Civil Defence College while several senior Civil Service Civil Defence officers attended staff courses there during the year.

What might be now called a trained staff for participation in the operation of the Federal Control Centre during its activated sessions is available from the ranks of Civil Service Civil Defence and numbers about 100 persons. A number of teletype and communication room learners and operators have been under instruction this year by Civil Defence Headquarters Communication Section.

Annual fire drills have been carried out in accordance with the terms of reference laid down by Order-in-Council and during Fire Prevention Week co-operation with the Ottawa Fire Department in its public demonstrations at a number of government buildings brought commendation for excellent work by wardens and fire fighting teams from the Fire Department's Chief and Prevention Bureau.

The year 1956-57 closed with approximately 3,900 persons trained or partially trained in Civil Defence techniques on the records of Civil Service Civil Defence out of a total of 5,000 civil servants who, over the past five years, have received Civil Defence training.

### **Training**

During the fiscal year, a total of 3,182 persons received some form of Civil Defence training under federal auspices, an increase over the preceding year of 1,058.

The types of courses conducted were staff courses for key personnel, Rescue Instructors courses and Special Forums for doctors and dentists, pharmacists and nurses. At the request of the Canadian Federation of Mayors and Municipalities, a Conference of Canadian Mayors was held at the College which was attended by 91 mayors or senior civic officials. Special courses in Civil Defence Indoctrination and Rescue were again held for the benefit of members of the Armed Services. In addition to this, the Department of National Defence has taken advantage of the regular type of courses to train members of the Armed Services in Civil Defence matters.

Exercise Alert III was conducted during July in collaboration with the United States. All provinces participated for the purpose of developing operational procedures and the training of Control Centre personnel. The Federal Control Centre was activated for two additional exercises, Federal I and Federal II for the purpose of training federal Civil Defence employees and certain members of the Civil Service Civil Defence organization in Control Centre duties.

The provincial training program is developing steadily, a total of 120,574 Civil Defence volunteers having received some training.

The Civil Defence strength for the nation as a whole as at the close of the year under review, shows 94,203 full-time provincial and civil employees, such as fire, police, utilities and Civil Defence personnel, and 121,523 part-time civilian volunteers. The over-all total was 215,726.

TABLE 51  
CANDIDATES TRAINED AT THE  
CANADIAN CIVIL DEFENCE COLLEGE  
April 1956-March 1957

*Province*

British Columbia .....	258
Alberta .....	195
Saskatchewan .....	134
Manitoba .....	105
Ontario .....	589
Quebec .....	89
New Brunswick .....	109
Nova Scotia .....	90
Prince Edward Island .....	6
Newfoundland .....	24
Armed Forces .....	402
F.C.S.C.D. ....	148
Federal Employees .....	25
R.C.M.P. ....	3
Others .....	4
Special Groups .....	991
Total .....	<u>3,182</u>

TABLE 52  
CIVIL DEFENCE WORKERS IN CANADA  
(As at 10th April, 1957)

Province	A Full-Time	B Volunteers	Total (A+B)	Number Trained to Date
B.C.....	18,385	37,216	55,601	39,068
*Alberta.....	15,888	14,322	30,210	26,204
*Saskatchewan.....	4,537	12,310	16,847	3,971
*Manitoba.....	2,193	6,176	8,369	2,234
*Ontario.....	17,240	27,023	44,263	40,000 (est.)
Quebec.....	34,017	15,240	49,257	7,318
New Brunswick.....	525	2,562	3,087	1,118
P.E.I.....				
Nova Scotia.....	1,400	6,500	7,900	553
Newfoundland.....	7	100	107	107
*N.W.T. and Yukon.....	11	74	85	1
Totals.....	94,203	121,523	215,726	120,574

\*Returns as at 31st March, 1956. 1957 returns not yet received.

### **Civil Defence College**

The Canadian Civil Defence College was established in Arnprior in late 1953. The College's main functions are to train key Civil Defence personnel in the development of Civil Defence organization, plans and operations; to train instructors for local Civil Defence authorities; and to conduct research in proposed Civil Defence equipment and operational procedures.

During the year 1956-57 the Canadian Civil Defence College conducted a total of sixty-four regular courses of one or two weeks' duration. In addition, thirty-six special groups were accommodated on special one or two day sessions.

In the past year, twenty-seven different types of courses were conducted for candidates who had been sent to the College by the various provincial and municipal authorities.

Some of the equipment tested at the College included chain saws, portable water tanks, paper tents, oxygen lances, an improvised hospital, and special heavy weight-lifting mechanisms. One filmstrip was developed at the College which was devoted to rescue equipment and packboards.

In addition to the conduct of regular instruction at the College, members of the instructional staff have carried out extra-curricular lecture assignments.

Since the College was established in its present location some 7,500 people have received instruction in Civil Defence.

## COURSES AT FEDERAL CIVIL DEFENCE COLLEGE

Month	Regular Courses	Total Intake	Special Groups	Total Intake
April.....	8	237	5	204
May.....	5	180	5	195
June.....	5	134	6	237
July.....	4	166	2	81
September.....	6	141	1	21
October.....	4	182	3	259
November.....	7	189	3	57
December.....	5	162	.....	.....
January.....	5	119	.....	.....
February.....	6	259	4	114
March.....	9	311	7	227
Totals.....	64	2,080	36	1,395



## ADMINISTRATION BRANCH

The Administration Branch serves the entire Department both across Canada and overseas. Developing departmental responsibilities in a number of fields during the year tended to make increasing demands upon the administrative services.

Reports follow of the activities of the various divisions comprising the Administration Branch—the Departmental Secretary's Division, Information Services Division, Legal Division, Departmental Library, Personnel Division, Purchasing and Supply Division, and Research and Statistics Division.

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### DEPARTMENTAL SECRETARY'S DIVISION

As in former years the responsibilities of the Departmental Secretary's Division fell into two main classes—those carried out by the Departmental Secretary personally and those borne largely by the staff of the Division.

Included among the first group were (a) acting as financial adviser to the Department in respect of many aspects of its work; (b) assisting the Minister and Deputy Ministers in the preparation and approval of the departmental estimates; (c) acting as the Deputy Ministers' substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfers between allotments, submissions to the Governor-in-Council and to the Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament and the carrying out of many special projects which were assigned from time to time.

The second group of responsibilities was assumed by the various Sections of the Division as follows:

The registry services carried out all phases of the work relating to the custody, circulation and retirement of the Department's official records. This involved the operation of a central registry and seven sub-registries. Considerable attention was given during the year to the re-organization and retirement of field records and an aggressive retirement program was carried out at headquarters in order to keep to the minimum the time, effort, space and equipment involved in the management of the Department's extensive records. Mail, messenger and truck services at head office continued to be provided by this Section.

The Accounts and Estimates Section assisted in providing financial advice to the Department and relieving directors and chiefs of the burden of maintaining accounting records and routine administrative duties related to financial matters. This Section also carried out much of the detail involved in the preparation of departmental estimates and continued to act as liaison between the Department and the Treasury Office serving it.

The work of the Parliamentary Papers and Correspondence Section consisted largely of preparing replies to the many thousands of letters and inquiries which were received on a wide range of health and welfare subjects. This Section

was also responsible for processing, distributing, and recording all submissions, Orders-in-Council, Treasury Board Minutes, Treasury Board circular letters, and other documents, and for the daily reading of all parliamentary papers, and the excerpting, distributing, and indexing of items of interest to this Department.

In the Duplicating Section almost 17 million duplicating impressions were produced, with the many related operations representing a correspondingly heavy workload. Particular attention was given in the past year to the maintenance of the Department's addressograph lists which totalled about 200,000 names.

A central source of typing assistance was again provided to the entire Department in Ottawa by the Secretarial Services. As well, all typing and matrice work required in the preparation of material for reproduction in the Duplicating Section was done by the Secretarial Services. Varsity facilities continued to be available.

In addition the Departmental Secretary's office acted as an information centre for the entire Department and carried out numerous special projects which normally fall to the lot of the secretariat of a large organization.

## INFORMATION SERVICES DIVISION

This Division continued to provide specialist services in the fields of public information, health education and public relations. Improvement in the staff situation was achieved during the year with the appointment of two new information officers and clerks to handle film and photo libraries and clipping services. On the debit side, the senior member of the Biological Photographic Laboratory staff accepted a position in another Department and was not replaced.

The Distribution Section handled 28,500 individual requests and distributed 6,228,240 general health publications and 5,961,660 periodicals, inserts, radio notes and press fillers.

The clipping service was re-organized to enable review of 66 daily newspapers and nine periodicals, circulation of clippings and their indexing for ready reference.

The work of procuring films for the National Film Libraries, organizing block bookings and maintaining files was re-organized. A catalogue of health films was completed and a filmstrip library set up for use by departmental personnel. A file is being established of some 4,000 still photographs.

A total of 226 printing projects were handled during the year, of which 114 were new jobs and 112 were reprints. In addition 152 jobs were produced in the Departmental Secretary's Division, over 270 items of art work and layout, and over 400 paste-ups were handled in Information Services Division, as well as a large number of signs, showcards, etc.

The Biological Photographic Laboratory made 11,500 prints. Special work included 300 colour slides of tuberculosis posters done by Indian children, 120 30" x 40" transparent overlays for Civil Defence, 560 chromatograms by reflected and ultra-violet light for the Food and Drug Directorate, colour photos of bacterial toxins in petrie dishes, a filmstrip on school mental health services, and numerous location photos in colour and black and white for various divisions.

### Periodicals

Ten issues of *Canada's Health and Welfare* were published, as well as three supplements, on school mental health services, civil defence and nutrition. Twelve issues of a newsletter to health educators were produced as were the weekly

and monthly issues of "National Health Radio Notes", "Health Column" and "Press Fillers", and the *Civil Defence Bulletin*. Two numbers of the Indian Health Newsletter were issued.

### Visual Aids

Three films were produced: *Putting It Straight* (on malocclusion); *The Teens*, and *Picture of a Problem Drinker*, the latter in co-operation with the Alcoholism Foundation of Ontario and the National Film Board. Three filmstrips were made: *The School Mental Health Clinic*, entirely produced by the Information Services Division, *Sex: What Shall I Tell My Child?* and *Sex: What Shall I Tell My Teenager?*

Four posters were prepared on child safety as well as two for the Public Health Engineering Division and one each for the Civil Service Health and Nutrition Divisions. Exhibits were made on the subjects of radiation hazards, dental care, welfare services, public health and mental health. For teaching purposes the Division made three small portable displays dealing with dental health, safety and nutrition.

### Publications

New publications prepared were: *Care of the Sick Child*, *Education for Expectant Parents*, *What to Eat Before Baby's Born*, a booklet on hygiene in Eskimo syllabics, a calendar in English and Eskimo syllabics, *Food and Drug Protection in Canada*, *Play and Playmates*, *Illness: How Can I Help My Child?*, *Helping Families in Trouble*, *Alcoholism*, *Opportunities for Occupational Therapists in the Mental Health Field*, *Opportunities for Psychologists in the Mental Health Field*, and the departmental *Annual Report*. With the exception of the Eskimo material, all these publications were prepared in both English and French.

Reprints of articles from *Canada's Health and Welfare* and the *Occupational Health Bulletin* were produced on such subjects as the practising physician and the alcoholic, hazards of low voltage electricity, obesity, narcotics in industry, the work of the Information Services Division, the first-aid kit, x-ray protection, and fatigue. The Division worked with the Canadian Nurses Association in preparation of a booklet to be called *Nursing*.

### Radio and Television

For the ninth consecutive year, radio dramas were prepared and circulated for broadcast weekly over more than 100 radio stations, under the series title "Here's Health" and "A Votre Santé". A great deal of assistance was given to both radio and TV producers in providing background material and facilities for news, actuality and feature programs.

### Liaison

The Sixth Federal-Provincial Health Educators' Conference held in October was attended by representatives from all provinces except Alberta and Manitoba. A report of proceedings was issued. In addition liaison visits were made throughout the year by various officers to most of the provincial health education offices.

Liaison with the 31 departmental consultants and heads of divisions and directorates was maintained to the limit of staff capacity. This included not only assistance in the preparation of health education materials but in many cases consultant services in all fields of public information and public relations.



Officers of the Division attended the Canadian Public Health Association meeting in Saint John, the American Psychiatric Association in Chicago, the American Public Health Association in Atlantic City, the Canadian Conference on Social Work in Edmonton, the National Conference on Social Work in St. Louis, the Canadian Medical Association in Quebec, the French Canadian Medical Association in Jasper, the French Weeklies' Association in Sherbrooke, the Institut des Affaires Publiques in Ste. Adele, and the Joint Planning Commission in Montreal. Exhibits were shown at all these meetings.

Colombo Plan trainees from Indonesia, Burma, Ceylon, Pakistan, Cambodia, and Haiti spent considerable time in the Division. The newly appointed Health Educator for Prince Edward Island spent a week with the Division. Officers spoke to many groups, among them nurses from Ottawa and students from the universities of McGill, Montreal and Ottawa, as well as from a private school at Stockbridge, Mass.

### **Civil Defence**

An extensive information service for Civil Defence was conducted by the Division. Details of this program are included in the report of the Civil Defence Division.

## **LEGAL DIVISION**

The Legal Division provides general legal services to the entire Department in matters within departmental responsibility and concern. These services include the furnishing of legal advice and opinions, the preparation of contracts, agreements and other legal documents, the interpretation of statutes and regulations, and advising on prosecutions under the Food and Drugs Act, the Opium and Narcotic Drug Act, the Family Allowances Act and the Old Age Security Act. Involved in the above is liaison with other departments and agencies of government, including the Royal Canadian Mounted Police, particularly in matters relating to the Opium and Narcotic Drug Act and the Food and Drugs Act.

During the past year the Legal Division provided assistance in the preparation of legislation. This included the Hospital Insurance and Diagnostic Services Act and the regulations thereunder and the drafting of agreements for submission to the provinces, the Narcotic Control Act which was passed in the Senate and given first reading in the House of Commons, and agreements with the provinces following the changes in the Old Age Assistance Act, the Blind Persons Act and the Disabled Persons Act. The Legal Division was also responsible for the revision and consolidation of certain of the regulations made under the authority of statutes administered by the Department, the preparation of submissions and recommendations to the Governor-in-Council and the Treasury Board, and the drafting of regulations for submission to the Department of Justice.

The Legal Division also assisted in the collection of Family Allowances and Old Age Security overpayments.

Through the Legal Adviser the Division provided consultative legal services to a number of voluntary health agencies and organizations, including the National Cancer Institute of Canada, the Canadian Association of Radiologists, the Canadian Association of Radiological Technicians and the Canadian Heart Foundation. The Division also represented the Department on various boards concerned with administrative and policy matters in which the Department has some interest or responsibility.



## DEPARTMENTAL LIBRARY

The Departmental Library continued to select, acquire and organize reference and technical books, serials, pamphlets and government documents on all subjects related to the Department's work. The usual service of answering reference questions and advising on authorities and sources of information was maintained.

Cataloguing of all collections was done in the Main Library where a dictionary-type master catalogue by author, title and subject of all holdings was kept up to date. Additional finished catalogue records were supplied to other establishments and to the Union Catalogue maintained by the National Library. The cataloguing staff also compiled or edited bibliographies and indexes as required.

All published books, serials, pamphlets, and other documents for reference use or for distribution were screened and ordered by the library staff. A number of cases of excessively increased prices of books in Canada and of undue delays in release in Canada as compared with country of origin were investigated.

In March the branch library for the Laboratory of Hygiene was moved to the Laboratory's new building at Tunney's Pasture. Plans were drawn up for the expanded branch library to serve the Occupational Health Division and the Public Health Engineering Division.

## PERSONNEL DIVISION

The tables following show certain elements of the staff situation at the end of the fiscal year.

During the year the Personnel Division collaborated with Civil Service Commission in a number of class studies, and it is to be hoped that the revisions effected will make it easier to attract and retain the professional and technical staff necessary to carry on the functions of the Department. It will be seen that there continue to be deficiencies in certain key categories of employment. The Civil Service Commission is working with the Personnel Division to modify recruiting practices in a concerted effort to overcome delays and to have recruiting competitions operating at the time most attractive to the calibre of personnel being sought.

The establishment review procedure has been carried out for the third year and many of the steps in this exhaustive review have been modified in the light of experience. The modest increases approved for the Department are insufficient to meet the needs. Shortages have had to be met by re-organization of procedures throughout the Department and the deployment of personnel from one task to another. The consultative and research functions of the Department are open to management processes only to a limited degree and it is considered that maximum economy and efficiency are rapidly being reached.

In general fairly reasonable progress was made during the year in strengthening the processes of the Department. Great credit is due the professional and scientific employees who have undertaken in many instances daily tasks of a most elementary nature despite the resultant frustration and lack of challenge.

TABLE 53  
(Personnel Division)  
GEOGRAPHICAL DISTRIBUTION OF STAFF  
As at March 31, 1957

	Welfare Branch including Civil Defence	Directorate of Indian Health Services	Health Branch	Administration Branch	Total
Ottawa.....	114	24	507	302	947
Northwest Territories.....		25			25
British Columbia.....	64	484	60		608
Alberta.....	57	430	3		490
Saskatchewan.....	51	152	2		205
Manitoba.....	44	169	28		241
Ontario.....	361	345	38		744
Quebec.....	211	27	201		439
New Brunswick.....	40	7	13		60
Nova Scotia.....	52	8	80		140
Prince Edward Island.....	10	1	1		12
Newfoundland.....	31		12		43
Overseas.....			120		120
Total.....	1,035	1,672	1,065	302	4,074

TABLE 54  
(Personnel Division)  
STAFF STRENGTH, BY DIVISION  
At March 31, 1956 and March 31, 1957

Division	Strength, March 31, 1956		Strength, March 31, 1957	
	Full Time	Part Time	Full Time	Part Time
Minister's Office.....	19		20	
Departmental Secretary.....	128		128	
Information Services.....	25		29	
Legal.....	7		7	
Library.....	12	1	13	
Personnel.....	38		34	
Purchasing and Supply.....	24		30	
Research and Statistics.....	37		41	
Health Administration.....	17		18	1
Medical Rehabilitation and Disability Advisory Services.....	4		3	
Blindness Control.....	4		3	
Child and Maternal Health.....	4		4	
Civil Aviation Medicine.....	6	7	7	6
Civil Service Health.....	75		80	
Dental Health.....	5		4	
Epidemiology.....	11		11	
Food and Drug and Proprietary or Patent Medicines.....	220		249	
Health Insurance and Health Grants.....	19		23	
Hospital Design.....	3		4	
Occupational Health.....	52		51	
Laboratory of Hygiene.....	96		108	
Mental Health.....	5	1	8	
Nutrition.....	19		17	
Narcotic.....	29		29	
Public Health Engineering.....	29	1	37	
Quarantine, Immigration, Medical and Sick Mariners Services.....	383	18	382	22
Indian Health Services.....	1,580	61	1,613	59
Welfare Administration.....	5		6	
Old Age Assistance.....	19		18	
Family Allowance and Old Age Security.....	844		838	
Civil Defence.....	152		160	
Northern Health Services.....	11		11	
	3,882	89	3,986	88

TABLE 55  
(Personnel Division)  
CHANGES OF FULL-TIME STAFF WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES

	Number of authorized positions March 31, 1957	Number appointed during the fiscal year	Number transferred or promoted during the fiscal year	Number terminated during the fiscal year	Number of vacant positions March 31, 1957	Approximate number of terminations per 100 employees
Physicians.....	217	30	5	15	14	7
Dentists.....	22	4			7	
Registered Nurses.....	574	286	77	170	45	29
Chemists.....	105	21	7	6	3	5
Bacteriologists.....	20	7		2		
Pharmacists.....	5					
Laboratory Technicians.....	108	5		8	6	7
Nutritionists.....	9	2		1	2	
X-Ray Operators.....	33	17	1	10	1	
Food and Drug Inspectors.....	64	11	3	4	4	
Public Health Engineers.....	27	4	4	3	3	
Social Workers.....	28	6	2	8	6	
Information Officers.....	9	2	3	1	1	
All Other Classes.....	3,151	1,101	192	772	294	24
Total.....	4,372	1,496	294	1,000	386	72



## PURCHASING AND SUPPLY DIVISION

The Purchasing and Supply Division continued to meet departmental requirements for materials, equipment, accommodation, stationery and supplies, telephones and other public utilities.

Three new Nursing Stations of the Indian and Northern Health Services—at Little Grand Rapids, Manitoba, Oskelaneo River, Saskatchewan, and Tuktoyaktuk, Northwest Territories—and several Health Centres were at the year-end in process of being equipped through this Division.

A new building erected at Tunney's Pasture during the year to house the Laboratory of Hygiene necessitated the purchase through this Division of a great deal of additional technical and scientific equipment.

Approximately 13,000 requisitions were processed embracing almost every commodity. Orders were placed with manufacturers and suppliers in all parts of Canada and the United States.

The Division continued to operate and expand departmental stores in Ottawa. Over 5,700 shipments were made from that source during the year. These included shipments of stationery, and of medical and x-ray equipment items for new immigration medical offices in the United Kingdom and Continental Europe, and to North Africa, South America, and other countries for immigration medical purposes.

## RESEARCH AND STATISTICS DIVISION

Major emphasis in the work of the Research and Statistics Division remained on assistance to the development of the federal hospital insurance proposal and on study of the general problems of the effects of ionizing radiation. The Division continued to collect, analyze and evaluate data on health and welfare subjects, to develop methods to assist in solving technical and administrative problems and to provide research and consultant services to other divisions of the Department and to other government and non-government organizations, including United Nations Agencies. Liaison was maintained with officials of public and private agencies in Canada, the United States, the United Kingdom and other countries.

### **Health Care**

Following the January 1956 meeting of the federal-provincial Committee of Health and Finance Ministers on the federal proposal to share with the provinces the cost of provincial programs of hospital care and laboratory and radiological diagnostic services, extensive statistical and descriptive documentation was prepared and the Division commenced the preparation of cost estimates and of a cost reporting system, in co-operation with provincial governments. A series of memoranda on various technical aspects of the proposal was prepared for the use of departmental officials and work was completed on a comprehensive study of the size and distribution of health care expenditures in each province, by consumer, by public and voluntary insurance, and by government and other agencies.

The Principal Research Officer (Health Services) spent a short period in England reviewing cost aspects of the National Health Service, especially the hospital service, and studying its administration and operations.

At the request of the Nova Scotia Department of Health, a staff member spent one month in that province assisting the provincial Hospital Planning Committee in the collection and analysis of data necessary to the Committee's study of hospital care and costs.

Detailed studies were made of the financial operations of Ontario hospitals, in co-operation with the Ontario Hospital Services Commission, and of the financial statistics provided by some of the major hospitals in Quebec.

Study was continued of public hospital care plans in the provinces of British Columbia, Alberta, Saskatchewan and Newfoundland and the medical care plans in operation in Swift Current, Saskatchewan, and in certain other districts of Saskatchewan and Manitoba.

Current information was published on the coverage, benefits and administration of voluntary hospital and medical insurance plans in Canada and a reference book on this subject was being prepared at the end of the year.

A study was initiated of data on group practice obtained in the Division's latest *Re-Survey of Physicians in Canada*, with a view to publication of a bulletin in 1957.

A staff member of the Health Care Section has acted for the past few years as Secretary of the Canadian Medical Care Conference and several members contributed papers at the annual meetings of the Canadian and American Public Health Associations.

### **Health and Hospital Services**

A number of bulletins on different aspects of health services in Canada were largely completed and it was anticipated that some, including *The Administration of Public Health in Canada*, *Laboratory and Radiological Services* and *Cancer Services* would be published during 1957. The bulletin *Occupational Health Services in Industry in Canada, 1954* was published and a draft supplement was in course of preparation at the end of the year to incorporate additional data becoming available after publication. The bulletin described the results of a survey undertaken in 1954, in collaboration with the Department of Labour, of medical and nursing facilities in industry and of the numbers of doctors and nurses employed in this work.

Continuing analysis of the over-all hospital situation, including study of the relationship of hospital construction grants to construction costs, was carried on, based on material obtained through the National Health Survey and Dominion Bureau of Statistics data, supplemented by information from provincial health departments and other agencies. Special attention was given to the collection of data on hospitals not reporting to the Dominion Bureau of Statistics and to the study and comparison of bed ratios based on data which has been refined through this research. The bulletin *Hospitals in Canada* was being revised at the end of the year. A re-survey of psychiatric services in hospitals was undertaken, at the request of the Mental Health Division, following the basic design of the original survey of five years ago, the results of which were published in the Canadian Medical Association Journal.

The Division continued to keep the World Health Organization informed on changes in health legislation in Canada.

### **Rehabilitation Services**

Trends in the development of rehabilitation services were kept under review and progress was well advanced at the end of the year on a comprehensive bulletin on *Rehabilitation Services in Canada*, intended as a guide and source reference for rehabilitation workers.

The Division continued to assist the National Advisory Committee on the Rehabilitation of Disabled Persons, and the Director acted as the departmental representative at some meetings of the Committee and its executive committee.

### **Disability Statistics**

Statistics arising from the Disabled Persons Allowances Program were kept under continual review and analyses by age, sex and disability of the applicants for allowances were prepared as required for departmental use. Reports on experience during the first two fiscal years of the program were prepared.

### **Ionizing Radiation Studies**

In connection with the Department's interest in the assessment of the potential health hazards from exposure to ionizing radiation, both to the whole population and to special groups such as engineers, radiologists, technicians and patients, the Division carried on a study of the practical and theoretical feasibility of a proposal to use national vital statistics for the identification of family relationships which may be applied to genetic problems from radiation hazards.

The Principal Research Officer (Biostatistics) served as a member of the World Health Organization Study Group of the Effects of Ionizing Radiation, in Copenhagen, and of the Canadian delegation to the United Nations Scientific Committee on Atomic Radiation, in New York, where he assisted in presenting the Canadian program for genetics research and in assessing other research proposals.

### **Fluoridation Studies**

As a part of its assistance to the Dental Health Division's studies of the effects of fluorides in inhibiting the development of dental caries in school children, the Division supervised the selections of samples for Brantford, Sarnia and Stratford during the year and collaborated in the planning of an investigation carried on in Ottawa separate schools of the effects of a single topical application of stannous fluoride repeated at six month intervals; sample size estimates and random half-mouth treatment allocations were also made for this project. Some work was done on the analysis of data from a similar study in Eastview public schools of a series of topical applications of sodium fluoride.

### **Air Pollution Health Studies**

Analysis of morbidity data for the Detroit—Windsor Air Pollution Health Study was completed and a report of the investigation prepared. The Principal Research Officer (Biostatistics) presented a paper on the results at the annual meeting of the Canadian Public Health Association in Saint John.

The Division also assisted the Epidemiology Division in a two month study of approximately 200 patients at St. Vincent's Hospital, Ottawa, in an attempt to determine symptomatic response to air pollution concentrations in which more than 2,000 patient interviews were carried out. The Division prepared the observation schedules and reporting form, supervised the field work, and completed an analysis of the data obtained.

### **The Canadian Sickness Survey**

The Division assisted with the interpretation of Canadian Sickness Survey results, particularly diagnostic categories, and reviewed bulletins prior to publication. Bulletin No. 10, *Illness Frequency by Diagnostic Classification* was published



during the year. A paper on "Expenditure Pattern of the Canadian Sickness Survey" by members of the Division was published in the Canadian Journal of Public Health.

### ***Biostatistical Consultative and Technical Services***

In addition to the actual carrying out of biostatistical research projects, usually co-operatively, the Division provided a statistical consultative service to the Department, and under some circumstances, to other organizations.

Assistance was given to the Epidemiology Division on a number of projects. A long-term study was commenced of selected characteristics of D.V.A. pensioners, and, in some cases, of their dependents, with a view to possible relation to mortality experience. Analyses of data were carried out respecting possible association between poliomyelitis and tonsillectomy and on polio vaccine evaluation. Aid was also given in an investigation of home poisonings, in a survey to determine the incidence of serum hepatitis and in consideration of etiological factors in the development of heart disease.

The Child and Maternal Health Division was aided in a critical review of record schedules for a Winnipeg survey of premature infants, through the provision of some data for a Halifax investigation of post-matures and through suggestions as to sample plan and size for a Winnipeg Rh negative investigation.

The Division continued to review official statistics and other sources of information about the health of the people of Canada, and provided departmental officers and others with data relevant to administrative problems of program planning or to research projects as required.

Some work was done on revision of the records and statistics system of the Department's film monitoring service and assistance continued to be given to the development of health grant records, particularly in relation to research projects.

### ***Health Personnel***

Data on health personnel continued to be kept under review. Memoranda were prepared on trends in population ratios, on the enrollment in, and graduates of, training schools, with particular reference to doctors, dentists and nurses, on the supply and distribution of physicians and on immigrant physicians. Assistance was given in the selection of a sample of doctors for the Survey of General Practice initiated by the College of General Practice. Liaison was maintained with other organizations interested in health personnel and information was provided to the Canadian Medical Association, the Defence Medical and Dental Services Advisory Board and the Department of Labour.

Studies and surveys with respect to nurses and nursing have continued to require a good deal of attention. In response to a request to the Department, assistance was given to a study of nursing activities in the Notre Dame Hospital in Montreal, using methods developed in the head nurse study carried out by this Division at the Ottawa Civic Hospital but extending to all members of the nursing and auxiliary staffs. A draft nurse survey manual, including suggestions for follow-up of survey data, was completed.

### ***Income Security***

The Division continued to study developments in income security in Canada and other countries. A comprehensive review of Family Allowances in Canada was prepared for the International Labour Review and a statistical records system was set up for the new Unemployment Assistance Program. The Department



of Veterans Affairs was supplied with a comprehensive review of income security provisions across Canada and the Department of Labour with short factual statements on the principal programs. Information on social security in Canada was provided for Pakistan, Argentina and a number of other countries.

Two members of the Division served on an interdepartmental committee which completed a study of the effects of pension plans on the employment, and retention in employment, of older workers. The Committee's report, which was made to the Interdepartmental Committee on the Older Worker, was being prepared for publication at the end of the year. The Division was represented on the Interdepartmental Committee on Pension Plan Statistics which reviewed available data on pension plans, their deficiencies and ways in which these could be overcome.

### **Family and Child Welfare**

Significant developments in family and child welfare in Canada and, to some extent in other countries, were kept under review. The Biennial Report on Developments in Family, Child and Youth Welfare and on the Organization and Administration of the Social Services in Canada was prepared on request for use as source material for articles in various publications of the United Nations.

During the year a preliminary report and methods of procedure were discussed with the Advisory Committee on Child Welfare Reporting and Statistics of the Canadian Welfare Council. Subsequently, two memoranda on the comparability of data in present reporting were placed before the meeting of the provincial directors of child welfare which was held in Edmonton in June, 1956. These included reviews of relevant definitions in provincial and federal statutes and of the common factors and variations in present reporting on child welfare in provincial reports. During the course of work on this project consultations were held with child welfare authorities in a number of provinces.

Revision was begun on the 1955 edition of the bulletin *Mother's Allowances Legislation in Canada*. The new edition will incorporate substantial changes made in provincial legislation, including those of 1957. Other studies in process of completion were on general assistance in Canada, adoption legislation, and measures affecting unmarried mothers. Because of the number and variety of enquiries about child welfare organization and services a general review of the subject was prepared to provide background for specialized studies in this field.

### **Welfare Services for Older Persons**

The Division continued study of statutory and other services for older people in Canada and, to meet the mounting number of requests for information about these services as well as their organization and sponsorship, prepared a review on the subject for distribution in the next fiscal year.

Work was continued on measures affecting living accommodation for the aged in Canada. This study is designed to cover institutional care, housing, and other living arrangements, the distribution of administrative and financial responsibility and the standards of care set out in law.

The Director of the Division represented the Department on the National Committee on Aging of the Canadian Welfare Council and was also a member of the Committee on Social Science Research of the International Agency on Gerontology. The Director and the Supervisor of the Welfare Section served on the Interdepartmental Committee on the Older Worker. The Director served

on the APWA Committee on aging. A member of the Division presented a paper on "Social Services for the Aged in Canada" to the Canadian Public Health Association, in May, 1956.

### **Community Organization and Services**

At the request of the United Nations, a commentary was submitted on the statement of principles contained in the UN report on community development programs.

The Director of the Division served on the National Executive of the Chests and Councils Division of the Canadian Welfare Council and the Interim Committee on National Agency Participation. The Supervisor of the Welfare Section acted as departmental observer on the National Committee on the Welfare of Immigrants and a member of the Division served on the National Committee of the Recreation Division of the Canadian Welfare Council.

### **Social Services Personnel**

Study continued on the problems of securing personnel for welfare services in Canada. As a member of the Research Commission of the United States Council on Social Work Education, the Director continued to give attention to research on curricula of schools of social work and other studies undertaken by the Commission. The Supervisor of the Welfare Section acted as chairman and lead-off speaker for the panel session "Help Wanted" at the Canadian Conference on Social Work in June, 1956, and presented an analysis of data on welfare personnel in Canada with estimates of the shortage of professional social workers in 1956. Sets of the relevant charts were supplied on request to various organizations interested in recruitment of candidates for social work training. The Supervisor of the Welfare Section continued to be active on the Standing Committee on Personnel of the Canadian Welfare Council which prepared documentation on in-service training and related problems for the National Workshop on Social Work Education.

### **Technical Co-operation**

During the latter part of the year the Division assumed responsibility for the planning and administration of programs for persons coming to Canada for training in social welfare under the auspices of The Technical Assistance Administration of the United Nations and under the Colombo Plan and the Director acted as a departmental representative on the Interdepartmental Group for Technical Co-operation and on the Scholarship Panel of the Group. As in past years when the Division had assisted in the planning of programs and instruction of trainees, this training has been given through the co-operation and assistance of a large number of agencies across Canada and programs are arranged and carried out in partnership with leading agencies in different fields of social welfare.

### **Miscellaneous**

The Director reported on trends and developments in social welfare in Canada at the annual meeting of the western regional conference of the APWA and served on the Research Committee of the Round Table on the Impact of Human Well-Being of a Rapidly Evolving Industrialization, organized by the School of Social Work of the University of Toronto, and some research work was done for the committee.

Documentation was prepared for, and technical advisors to, the 39th Session of the International Labour Conference were briefed on items concerning welfare facilities in industry which had been dealt with at the 38th Session at which the Director was an advisor.

A fact sheet on health and welfare services in Canada was prepared for the Department of External Affairs for distribution abroad. Material on health and welfare for publication in *Canada 1957* and other government publications and a number of articles and comprehensive reviews of books were written by members of the Division during the year. Draft manuscripts of articles and speeches on technical subjects were prepared for senior members of the Department. As in other years a monthly article on health or welfare developments in other countries was contributed to the publication, *Canada's Health and Welfare*.

Members of the Division served on the Editorial Boards of *Canadian Welfare*, *Bien-être social* and on the French Commission of the Canadian Welfare Council, and, as in previous years on the departmental film committee to assess welfare films for the departmental film library.

# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

March 31, 1957

## MINISTER

HONOURABLE PAUL MARTIN, Q.C., M.P., LL.M., LL.D., D.C.L.  
*Parliamentary Assistant*, Frederick G. Robertson, M.D., M.P.  
*Executive Assistant*, George M. Carty, B.A.  
*Private Secretary*, D. G. Emerson

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Deputy Minister of National Health and Welfare (Health)  
G. D. W. Cameron, M.D., C.M., D.P.H., LL.D.  
Deputy Minister of National Health and Welfare (Welfare)  
G. F. Davidson, B.A., M.A., Ph.D., LL.D.

## HEALTH BRANCH

### FOOD AND DRUG DIVISIONS:

FOOD AND DRUG DIRECTORATE—*Director*, C. A. Morrell, M.A., Ph.D., F.R.S.C.  
*Assistant Director* (Scientific Services), L. I. Pugsley, B.A., M.Sc., Ph.D.  
*Assistant Director* (Administrative and Inspection Services), P. A. Faguy  
Proprietary or Patent Medicines Division, *Chief*, Paul Soucy, Phm.B.  
NARCOTIC CONTROL DIVISION—*Chief*, K. C. Hossick

### HEALTH SERVICES:

*Director*, F. W. Jackson, M.D., D.P.H.  
*Associate Director*, K. C. Charron, M.D.

### CONSULTANT SERVICES

Blindness Control Division, *Chief*, J. H. Grove, M.D.  
Child and Maternal Health Division, *Chief*, Jean F. Webb, B.Sc., M.D., D.P.H.  
Dental Health Division, *Chief*, H. K. Brown, D.D.S., D.D.P.H.  
Hospital Design Division, *Chief*, H. G. Hughes, B.Arch., A.R.I.B.A., M.R.A.I.C.  
Mental Health Division, *Chief*, C. A. Roberts, M.D., C.M., L.M.C.C.  
Nutrition Division, *Chief*, L. B. Pett, B.S.A., M.A., Ph.D., M.D., C.P.H.  
*Chief Nursing Consultant*, D. M. Percy, R.R.C., Reg. N.

### ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS

*Principal Medical Officer*, E. A. Watkinson, M.D., C.M., D.P.H.  
Occupational Health Division, *Chief*, E. A. Watkinson, M.D., C.M., D.P.H.  
Public Health Engineering Division, *Chief*, J. R. Menzies, B.A.Sc., O.L.S., C.E.

### HEALTH INSURANCE STUDIES

*Principal Medical Officer*, C. A. Roberts, M.D., C.M., L.M.C.C.

### NATIONAL HEALTH GRANTS

*Principal Medical Officer*, G. E. Wride, M.D., D.P.H.

### RESEARCH DEVELOPMENT

*Principal Medical Officer*, B. D. B. Layton, M.D., M.P.H.  
Epidemiology Division, *Chief*, E. H. Lossing, M.D., M.P.H.  
Laboratory of Hygiene, *Director*, J. Gibbard, B.S.A., S.M., F.R.S.C.

### INDIAN AND NORTHERN HEALTH SERVICES:

*Director*, P. E. Moore, M.D., D.P.H.  
*Associate Director*, H. A. Procter, D.S.O., M.D., Ph.D.  
*Assistant Director*, W. B. Brittain, B.Sc.



**MEDICAL ADVISORY SERVICES:***Principal Medical Officer*, R. G. Ratz, M.B.Civil Aviation Medicine Division, *Chief*, W. A. Prowse, M.D., C.M., D.P.H.Civil Service Health Division, *Chief*, E. L. Davey, M.D., D.P.H.Quarantine, Immigration Medical and Sick Mariners Services, *Chief*, H. D. Reid, M.D.**WELFARE BRANCH***Executive Assistant* (Welfare) Mrs. D. B. Sinclair, O.B.E., B.A., M.A., LL.D., D.Sc.Soc., L.H.D.*Consultant*, Fitness and Recreation, Doris W. Plewes, M.A., B.Paed., Ed.D.**FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION**—*National Director*, R. B. Curry, B.A., LL.B.*Assistant National Director*, J. Albert Blais*Regional Directors*—

Newfoundland; J. G. Parsons, St. John's

Prince Edward Island; A. S. Tait, Charlottetown

Nova Scotia; P. H. Stehelin, Halifax

New Brunswick; A. Nicholson, Fredericton

Quebec; Lionel Lafrance, Quebec

Ontario; F. C. Jackson, Toronto

Manitoba; C. B. Howden, Winnipeg

Saskatchewan; G. P. Allen, Regina

Alberta; H. C. L. Gilman, Edmonton

British Columbia; W. R. Bone, Victoria

Yukon and Northwest Territories; Miss Norma O'Brien, Ottawa

**OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS**—*Director*, J. W. MacFarlane**CIVIL DEFENCE***Co-ordinator*, F. F. Worthington, C.B., M.C. (and Bar), M.M. (and Bar), C.D.*Deputy Co-ordinator*, G. S. Hatton, C.B., D.S.O., O.B.E.*Chief Administrative Officer*, M. P. Cawdron, M.A., B.Sc.**ADMINISTRATION BRANCH****SECRETARY'S DIVISION**, *Departmental Secretary*, Miss O. J. Waters**INFORMATION SERVICES DIVISION**, *Director*, Harvey W. Adams**LEGAL DIVISION**, *Legal Adviser*, R. E. Curran, Q.C., B.A., LL.B.**LIBRARY**, *Departmental Librarian*, Miss M. D. Morton, B.H.Sc., B.L.S.**PERSONNEL DIVISION**, *Chief*, J. F. Maxwell**PURCHASING AND SUPPLY DIVISION**, *Chief*, J. A. Hickson**RESEARCH AND STATISTICS DIVISION**, *Chief*, J. W. Willard, Ph.D., M.A., M.P.A., A.M.**TRANSLATION OFFICE***Chief*, G. A. Sauve**TREASURY OFFICE***Chief*, T. F. Phillips

## DIRECTORY OF DEPARTMENTAL ESTABLISHMENTS

### ADMINISTRATIVE OFFICES

#### OTTAWA

Jackson Building, Bank Street  
 Birks Building, Sparks Street  
 Booth Building, Sparks Street  
 Garland Building, Queen Street  
 No. 3 Temporary Building, Wellington Street  
 Trafalgar Building, Queen Street  
 Daly Building, Mackenzie Avenue

#### CIVIL DEFENCE COLLEGE

Arnprior, Ont.—P.O. Box 2050

### FAMILY ALLOWANCES AND OLD AGE SECURITY

St. John's, Nfld. ....	29 Buckmasters' Field
Charlottetown, P.E.I. ....	59 Queen Street
Halifax, N.S. ....	Industrial Building
Fredericton, N.B. ....	Federal Building
Quebec, Que. ....	51 Boulevard des Capucins
Toronto, Ont. ....	122 Front Street West
Winnipeg, Man. ....	138 Portage Ave. East
Regina, Sask. ....	Dominion Government Building
Edmonton, Alta. ....	10182 103rd Street
Victoria, B.C. ....	Federal Building

### FOOD AND DRUG LABORATORIES

Ottawa, Ont. ....	Tunney's Pasture
Halifax, N.S. ....	Ralston Building
Montreal, Que. ....	379 Common Street
Toronto, Ont. ....	27 St. Clair Avenue East
Winnipeg, Man. ....	Aragon Building
Vancouver, B.C. ....	Federal Building

### FOOD AND DRUG OFFICES

Ottawa, Ont. ....	Tunney's Pasture
Halifax, N.S. ....	Ralston Building
Charlottetown, P.E.I. ....	Confederation Building
Saint John, N.B. ....	250 Prince William Street
Sydney, N.S. ....	Naval Administration Bldg.
St. John's, Nfld. ....	T.A. & B. Society Building
Montreal, Que. ....	379 Common Street
Quebec, Que. ....	375 Dorchester Street
Three Rivers, Que. ....	Post Office Building
Sherbrooke, Que. ....	315 King Street West
Toronto, Ont. ....	27 St. Clair Avenue East
Belleville, Ont. ....	12 Bridge Street East
Hamilton, Ont. ....	Federal Building

Kitchener, Ont. ....	Dominion Public Building
Windsor, Ont. ....	Dominion Public Building
London, Ont. ....	Dominion Public Building
Sudbury, Ont. ....	Federal Building
Winnipeg, Man. ....	Aragon Building
Port Arthur, Ont. ....	33 Court Street South
Regina, Sask. ....	219, 22nd Street East
Vancouver, B.C. ....	Federal Building
Calgary, Alta. ....	Customs Building
Edmonton, Alta. ....	Post Office Building
Victoria, B.C. ....	Belmont Building
Kamloops, B.C. ....	345 Victoria Street

## IMMIGRATION MEDICAL SERVICE OFFICES

### Canada

Gander, Nfld. ....	Gander Airport
Halifax, N.S. ....	Immigration Building, Pier 21
Moncton, N.B. ....	Moncton Airport
Montreal, Que. ....	379 Common Street and Dorval Airport
Quebec, Que. ....	Immigration Hospital, Quebec-West
Saint John, N.B. ....	Pier 9, Immigration Building
St. John's, Nfld. ....	Marshall Building, Water Street, P.O. E5109
Stephenville, Nfld. ....	Harmon Field Airport
Toronto, Ont. ....	737 Church Street and Malton Airport
Vancouver, B.C. ....	Immigration Building, foot of Burrard St. and Sea Island Airport
Victoria, B.C. ....	Immigration Building
Windsor, Ont. ....	Windsor Airport
Winnipeg, Man. ....	Winnipeg Airport

### Overseas

London, England ....	61 Green Street, Mayfair, W.1
Belfast, Northern Ireland ....	65 Chichester Street
Glasgow, Scotland ....	18 Woodlands Terrace, C.3
Liverpool, England ....	34 Moorfields, Liverpool 1
Brussels, Belgium ....	230 rue Royale
Paris, France ....	38 Avenue de l'Opera
Rome, Italy ....	Via Nemorense, 90
The Hague, Holland ....	12 Carelvan Bijlandtlaan
Copenhagen, Denmark ....	Vestagervej 5
Karlsruhe, Germany ....	Canadian Government Immigration Mis- sion, 11 Redtenbacherstrasse
Hanover, Germany ....	10 Kirchroederstrasse
Berlin, Germany ....	Canadian Government Immigration Mis- sion, Berlin-Zehlendorf, Berliner Str. 25
Munich, Germany ....	Canadian Government Immigration Mis- sion, Funk Kaserne, Block 1, Freimannerstrasse 218, Meunchen- Freimann

Hamburg, Germany .....	Canadian Government Immigration Mission, Admiralitaetstrasse, 46
Vienna, Austria .....	Canadian Legation Visa Section, Tuchlauben 8, Vienna
Athens, Greece .....	18 Anagnostopoulov St. Kolonaki

### SICK MARINERS CLINICS AND HOSPITALS

Halifax, N.S. ....	Immigration Building, Pier 21
Sydney, N.S. ....	Marine Hospital
Saint John, N.B. ....	Pier 9
Quebec, Que. ....	Louise Basin
Montreal, Que. ....	379 Common Street and Dorval Airport
Vancouver, B.C. ....	Immigration Building

### QUARANTINE STATIONS AND SUB-STATIONS

Halifax, N.S. ....	Pier 21 and Rockhead Hospital
Saint John, N.B. ....	Pier 9 and Quarantine Hospital, Lancaster, N.B.
Quebec, Que. ....	Louise Basin and Quarantine Hospital, Quebec-West
Montreal, Que. ....	379 Common Street and Dorval Airport
Vancouver, B.C. ....	Immigration Building and Sea Island Airport
Victoria, B.C. ....	William Head, B.C.
Gander, Nfld. ....	Gander Airport
Three Rivers, Que. ....	Sub-stations under direction of Quarantine Officer in charge of Quebec.
Sorel, Que. ....	There is a Quarantine Officer appointed in each port.
Rimouski, Que. ....	
Port Alfred, Que. ....	
Seven Islands, Que. ....	

### LABORATORIES OF HYGIENE

Ottawa, Ont. ....	45 Spencer Street and Tunney's Pasture
-------------------	--

### OCCUPATIONAL HEALTH LABORATORIES

Ottawa, Ont. ....	200 Kent Street Health Radiation Laboratory, Laurentian Building
-------------------	---

### PUBLIC HEALTH ENGINEERING DISTRICT OFFICES

Truro, N.S. ....	515 Prince Street
Moncton, N.B. ....	Post Office Building
Montreal, Que. ....	150 St. Paul St. W.
St. Catharines, Ont. ....	4th Floor, Dominion Building
Port Arthur, Ont. ....	Post Office Building
Winnipeg, Man. ....	Scientific Building, 425½ Portage Ave.
Regina, Sask. ....	733 Motherwell Bldg.
Edmonton, Alta. ....	Post Office Building
Vancouver, B.C. ....	Begg Building, 1110 W. Georgia St.



# DEPARTMENT OF NATIONAL HEALTH & WELFARE

MINISTER

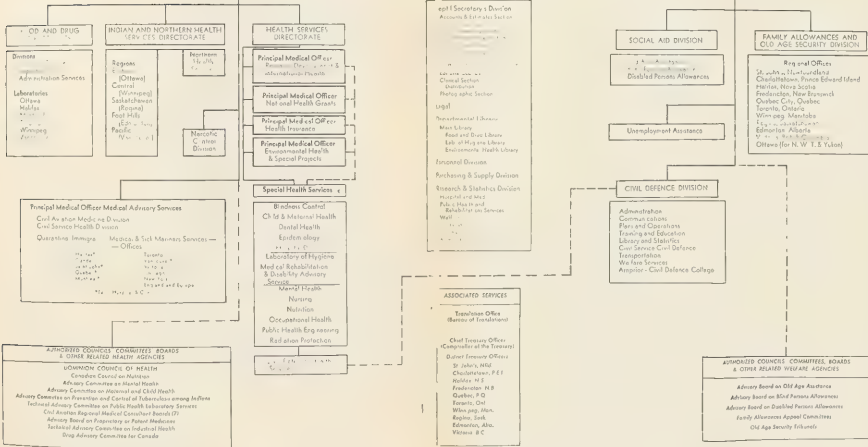
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WELFARE

HEALTH BRANCH

ADMINISTRATION  
BRANCH

WELFARE BRANCH





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# ANNUAL REPORT

DEPARTMENT  
OF  
NATIONAL HEALTH  
AND  
WELFARE

THE FISCAL YEAR ENDED MARCH 31

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THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE

# ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31

**1958**

The Queen's Printer and Controller of Stationery  
Ottawa, 1959



Available from the Queen's Printer  
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Ottawa, Canada



*To His Excellency the Right Honourable Vincent Massey, C.H., Governor General  
and Commander-in-Chief of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1958.

Respectfully submitted,

**J. WALDO MONTEITH,**  
*Minister of National Health and Welfare.*



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*To the Honourable J. Waldo Monteith, F.C.A., M.P.,  
Minister of National Health and Welfare, Ottawa.*

SIR:

In the year under review there were significant developments in the areas of the Department's responsibility.

On the health side there were major steps forward in the implementation of the new hospital insurance program. Introduced in Parliament in the last days of the previous fiscal year, a measure authorizing federal participation in provincial hospital insurance diagnostic services plans was given Royal Assent on May 1, 1957. Immediately thereafter, negotiations were commenced with interested provinces at both the policy and technical levels. These continued throughout the remaining months of the past fiscal period.

At the close of fiscal year 1957-58, the first Agreement under the program had been completed with the Government of Ontario which indicated that its plan would begin operations on January 1, 1959.

Another health development of note was the re-enforcement and extension of federal assistance to the provinces under the Hospital Construction Grant. Having effect from January 1, 1958, the overall level of aid was more than doubled and its scope broadened to include construction of internes' quarters and major renovations to existing hospital facilities.

In the field of epidemiology, the past year saw a further extension of the Salk polio vaccine program with the Dominion Government's offer to share in the costs of providing protection to persons up to the age of forty. In an effort to meet the threat of "Asian" influenza which reached epidemic proportions in many parts of Canada during the latter part of 1957, the Department also joined with provincial authorities in organizing and financing emergency arrangements for furnishing vaccine to armed forces, health, communications, and other personnel considered vital to the national security, and well-being.

On the welfare side, substantial changes in our various income maintenance programs were approved by Parliament to take effect as of November 1, 1957. These included a \$9 a month increase in maximum benefits under Old Age Security, Old Age Assistance, Allowances for the Blind, and Disability Allowances. Income ceilings were raised in the case of the latter three programs, residence requirements lowered for recipients of old age assistance and old age security, and temporary absences from Canada without loss of benefit extended for recipients of Old Age Security.

During the past year, a fundamental change was also made in the provisions of the Unemployment Assistance Act. Whereas previously federal financial participation came into play only after a certain percentage of provincial populations were drawing benefits, the new terms authorize sharing in all provincial expenditures on Unemployment Assistance. This amendment became operative on January 1, 1958, the same date on which two additional provinces—Nova Scotia and Alberta—entered the program. Their action, it should be noted, brought to nine the number of provinces participating in this joint undertaking, since Ontario had also entered in December 1957, as a result of the new amendments to the legislation.

Another development in the welfare field merits special mention. This was the appointment—also in January 1958—of Dr. Robert M. Clark of the University of British Columbia to review Canadian provisions for the aged and to carry out a study of old age and survivors insurance provisions now in force in the United States.

In money terms, 1957-58 was notable in that departmental expenditures for the first time reached and passed the billion dollar mark. Totalling \$1,032.6 thousand, outlays represented an increase of \$147.9 million over the previous year. Of this increment, \$144.8 million stemmed from the above-mentioned legislative changes in old age and other income maintenance programs.

In concluding this letter of transmittal we wish to express again our gratitude and admiration for the loyalty and devotion to duty of the staff of the Department. We wish to assure you, Sir, that they have given conscientious and faithful service.

Respectfully submitted,

G. D. W. CAMERON,  
*Deputy Minister of National Health  
and Welfare (Health)*

G. F. DAVIDSON,  
*Deputy Minister of National Health  
and Welfare (Welfare)*

OTTAWA, Canada.



# HEALTH BRANCH

## Introduction to Annual Report – 1957-58

The purpose of the annual report of the Health Branch of the Department is to present to the lay reader a concise description of its activities. Some of the department's activities are highly technical in nature and a certain irreducible minimum of scientific terms are necessarily included in the interest of accuracy. The use of such language has, however, been avoided and replaced by simple description wherever possible. For convenience and clarity a divisional breakdown is necessary. The reader should not be misled, however, into the belief that divisions are completely separate and autonomous units. While each has a special sphere of interest, all operate within the framework of the Health Branch, share a common responsibility to the Deputy Minister and are interdependent in their functions and activities to a much greater extent than a casual perusal of the report might indicate. The concept of well-organized health team-work is kept constantly to the fore.

Where departmental responsibilities include: matters relating to technical or financial assistance to the provinces, certain statutory duties which are federal in character, co-ordination of research, consultant services and obligations in the field of international health, close co-ordination becomes increasingly important. Because of the need for this co-ordination and because of the scope of the interests a number of divisions and services have been grouped under a single Director of Health Services as indicated in the report. The outstanding task of this group during the past year has, of course, been the preparation of material and negotiations attending the adoption of federal-provincial hospital insurance legislation.

Certain functions or agencies have no direct divisional relationships and are therefore apt to be overlooked. The most important of these is undoubtedly the Dominion Council of Health, first organized in 1919, which serves as the principal non-departmental advisory body to the Minister on matters relating to the health of the people of Canada. The Council consists of the deputy minister or chief health officer of each province, five members-at-large appointed by the Governor-in-Council and the Deputy Minister of National Health who acts as chairman. The Council meets twice annually and in the year under review considered among others such important matters of national concern as hospital insurance, poliomyelitis control, ionizing radiation and production and distribution of a vaccine against "asian influenza".

While it will be apparent that most of the department's activities are advisory or co-operative in nature, it does carry the responsibility for the administration of certain federal acts and orders-in-council designed to protect the health of the Canadian people. While little or no reference appears in the report, enforcement of such legislation not infrequently appears to conflict with legitimate commercial interests. When such conflict does appear an attempt is made to retain a reasonable balance between the public health and industrial interests involved. The

general policy of the department is, however, that the interests of the health of the Canadian people takes precedence over that of individual enterprises. The high esteem in which enforcement officers are generally held by commercial agencies concerned is attested by the close co-operation afforded the department in the gradual elimination of sub-standard operators and the general maintenance of reasonable standards.

A breakdown is appended of the total estimates for the Health Branch for the year under review as well as of the preceding year, for purpose of comparison.

### NATIONAL HEALTH BRANCH ESTIMATES

For 1956-57 and 1957-58

	1957-58	Percentage	1956-57	Percentage
STATUTORY OBLIGATIONS .....	\$ 6,691,572	9.7	\$ 4,861,963	7.7
Quarantine and Leprosy.				
Immigration Medical Services.				
Sick Mariners Treatment Services.				
Public Health Engineering.				
Civil Service Health.				
Administration of the Food and				
Drugs and the Proprietary or				
Patent Medicine Acts.				
Administration of the Opium and				
Narcotic Drugs Act.				
CO-OPERATION WITH PROVINCES .....	2,187,015	3.2	1,967,318	3.1
Laboratory of Hygiene.				
Occupational Health.				
Epidemiology.				
Special Technical Services.				
Health Insurance Studies.				
MISCELLANEOUS GRANTS .....	182,450	0.3	176,950	0.3
GENERAL HEALTH GRANTS .....	38,250,000	55.5	36,750,000	58.5
INDIAN HEALTH SERVICES .....	20,053,723	29.0	17,695,091	28.1
NORTHERN HEALTH SERVICES .....	1,380,994	2.0	1,224,610	2.0
NATIONAL HEALTH BRANCH—				
ADMINISTRATION .....	196,602	0.3	160,520	0.3
	<u>\$68,942,356</u>	<u>100.0</u>	<u>\$62,836,452</u>	<u>100.0</u>

## FOOD AND DRUG DIRECTORATE

### GENERAL

The primary function of the Food and Drug Directorate is to administer the Food and Drugs Act and the Proprietary or Patent Medicine Act. These Acts govern the safety, purity and quality as well as the labelling and advertising of all foods, drugs, cosmetics and medical devices.

In order to administer these Acts an organization has been set up which includes regional offices located at five principal production and importation centres across the Dominion, and the Ottawa headquarters. Attached to each regional office is a laboratory and also a number of inspectors located at various points in the territory. At headquarters, in addition to the research laboratories there are the Administrative Services, Inspection Services and the Director's Staff which includes the Medical Section and the Consumer Relations Section.

Since July 1954, the Food and Drugs Act has contained clear-cut authority for factory inspection in both the food and drug industries. A steady improvement in the conditions in both industries is evident after four years. The personal contact of the inspectors with industry has demonstrated our interest and alerted industry to the application of the legislation to their activities. It is believed that many violations and infractions, at one time, were due to ignorance not only of the regulations but also of satisfactory methods of control and supervision. This situation is being remedied.

In the enforcement of any legislation it is necessary to be prepared for a certain number of prosecutions. During the period under review, some large seizures were made and all cases were carried to successful conclusion in the courts. In addition, a survey to determine the compliance with the prescription drug legislation has been concluded. This survey, including approximately 60 per cent of the drug stores in Canada, was the most comprehensive attempted and there were 127 violations. This represents less than 3 per cent of all pharmacies in the country and there was no evidence in any case of trafficking in these drugs. The survey did indicate a lack of respect for the regulations which were drafted with the assistance of the pharmacy profession for the protection of the general public. Legal action has been concluded in all of these cases.

The Directorate is still concerned with the use of new pesticides on fruits and vegetables. This presents a problem in assuring that harmful residues do not remain on the food as sold to the consumer. Tolerances for 33 insecticides in a large number of foods are included in the Food and Drug Regulations.

The subject of chemical additives to foods is one of special interest to enforcement agencies throughout the world and to the World Health Organization and the Food and Agriculture Organization.

A large amount of enforcement work during the year was directed to ensuring that coal-tar colours, which had been permitted for a number of years and subsequently prohibited on the basis of new evidence, were withdrawn from use.

One of the most widely publicized activities of the Directorate has been the establishment of Poison Control Centres in a number of Canadian hospitals with the co-operation of the provincial departments of health and the Canadian Paediatric Society. These centres were supplied with cards bearing information concerning the potentially toxic ingredients in household chemicals and medications, as well as cards concerning diagnosis and therapy. The aim is to have a

sufficient number of centres to provide information for emergency treatment of accidental poisoning within reach of everyone in Canada. The problem is of prime importance when the accidents involve children under 4 years of age who seem to be most prone to this type of accident.

## **CONSUMER RELATIONS SECTION**

The prime purpose of the Food and Drugs Act is to protect the consumer against health hazards and fraud in the advertising, sale and use of foods, drugs, cosmetics and medical devices. Through its educational services the Consumer Relations Section tells the public of these objectives and how the consumer can help in furthering them.

## **MEDICAL SECTION**

During the year, 163 new drug submissions were received from manufacturers in Canada, the United States, Great Britain, France, and Germany. During this period 140 new drugs obtained clearance due to compliance with the new drug regulations. This compares very closely with the figures for the preceding three years.

The trend towards a greater amount of clinical investigation of new drugs in Canada has become more pronounced and the number of new drugs sponsored by Canadian companies and submitted to clinical trial in Canada has increased.

## **REGIONS**

The usual enforcement activities continued to occupy a considerable proportion of the time in the regions. Much of this enforcement activity consists of planned sampling of imported and domestic products. However, many man-hours each year are spent in inspecting the stocks of drug stores which have been damaged by fire. Similarly, in the disaster areas of flood and conflagration there is very often work for food and drug inspectors to safeguard the supply of food and drugs to the population.

In addition to enforcement work the regional officers maintain close contact with the trade and public and their function is educational as well as administrative and regulatory.

Enforcement activity this year included the survey of the unauthorized sale of prescription drugs. In the five regions, 2,300 drug stores were visited. The legal processing of prosecutions tends to be most time-consuming but in certain cases there is no alternative.

Special training courses have been given to regional laboratory and inspection personnel covering new phases of their work.

A Regional Directors' Conference was held in Ottawa in June to discuss policy and plan work for the succeeding year.

Some indication of the amount of enforcement activity may be obtained from the tables on pages 19, 20 and 21. When it is considered that the specimens mentioned include representative numbers of all types of food, drugs and cosmetics, it becomes apparent that food and drug inspectors must be well-informed on many subjects. It is becoming increasingly difficult to recruit and retain personnel who are qualified to carry out inspection duties.



## **INSPECTION SERVICES**

These Services are responsible for the enforcement of the Act and Regulations. Members of the staff, numbering 69, are situated in 5 regional offices and 22 districts suitably located in the 10 provinces.

To carry out this enforcement efficiently and economically, inspection at the source is practised.

### **Drug Plants**

A total of 425 drug plant inspections were made. The majority of these inspections was carried out in the east central and central regions because of the centralization of the industry. Emphasis was placed on distributors and parenteral manufacturers. New regulations were promulgated regarding the testing and manufacturing of drugs for injection and serious efforts are being made to improve the conditions of manufacture for these drugs. The present regulations have the support of the trade and a rigid enforcement program is planned to extend into the next fiscal year.

In general, there has been a marked improvement in the control procedures in drug plants. There is a noticeable trend in the industry to hire more and better-qualified personnel since their obligations to the public have been stressed on repeated inspections.

### **Legal Actions**

It was necessary to institute legal proceedings in 156 cases and all were carried to a successful conclusion. The amount of fines levied was \$42,752.

The first legal action taken under the new Section 7 of the Act, which makes it an offence to manufacture, prepare, preserve, package or store for sale any food under unsanitary conditions, was conducted with interesting results. An Ontario cheese-maker who had been warned many times of the unsanitary conditions under which he was operating was prosecuted and 13,495 pounds of cheese were seized. The court sentenced him to one month in jail plus \$1,000 fine.

An Ontario food manufacturer was prosecuted for selling jam which was low in insoluble solids, contrary to Section B.11.066 of the Regulations, and was fined \$12,000 (\$1,000 on each count). This case resulted from intensive inspection work and numerous analyses.

In the Province of Quebec one firm pleaded guilty to selling an oil as "olive oil" which was not fully obtained from the fruit of the olive tree and was fined \$1,400. All stock of this oil was seized and forfeited to the Crown. This seizure was finally disposed of by the reconditioning and relabelling of the product in compliance with our Regulations. In order to prepare this case new methods of analysis were worked out by our laboratories.

In the west central region a firm was taken to court for selling frozen medium pickerel filets which were not pickerel filets as labelled. The seizure of 5,187 pounds of the product was forfeited to the Crown by the court and the firm fined \$1,500. Part of the seizure was subsequently released for relabelling under our inspector's supervision.

The total amount of seizures numbered 109 and the value of goods seized totalled \$95,810. Some of this seized material was released for reprocessing and relabelling and the balance destroyed.

As a result of a country-wide survey by our inspectors to check the sale of Schedule F Drugs without prescription, 127 court actions were taken against drug stores for violating our Regulations, of which 115 have now been completed with successful results.

### **Labelling and Advertising**

Labelling and advertising problems were discussed with representatives of the firms responsible for the sale of foods, drugs and cosmetics. Problems associated with nationally-advertised products for the most part were discussed with officials of the Directorate at Ottawa. Local problems are handled by the regional office concerned.

### **Customs and Imports**

Every effort was made to ensure that commercial shipments of foods, drugs, and cosmetics were not allowed to enter the country unless they complied with the Canadian requirements. The same standards apply both to imported goods and those manufactured in Canada. Inspectors are continuously checking all ports of entry with the co-operation of the customs officers.

Indication of the amount of enforcement activity may be obtained by examining Tables 1, 2 and 3, pages 19, 20 and 21 respectively.

### **PROPRIETARY OR PATENT MEDICINE DIVISION**

The Proprietary or Patent Medicine Act is concerned exclusively with secret formula medicines sold under proprietary or trade names, and its control rests mainly on registration before marketing and renewal of registration by annual licence.

A complete register of preparations is kept and continuously brought up to date so as to indicate which ones have been discontinued. During the year 3,008 preparations were reviewed.

Another major function of this division is to control commercial advertising of proprietary or patent medicines. This includes newspapers, radio and television commercials.

This division has the responsibility of ascertaining that registered preparations are properly compounded, correctly labelled and otherwise meet all the requirements of the Act. During the past year a survey of proprietary or patent medicines containing phenolphthalein was made.

### **POISON CONTROL PROGRAM**

Poison Control Centres are now a reality in Canada. The program was initiated by the Food and Drug Directorate a few years ago because of greater prevalence of accidental poisoning in children, partly due to the larger number of household chemicals and drugs in the average home. Interest in the program developed quickly among medical and hospital groups, especially the Canadian Paediatric Society, when the Directorate offered to assemble information on the toxic ingredients of products and the treatment for cases of accidental poisoning.

The Directorate went ahead with the compilation of information, and early in April 1957 sets of information cards were sent to certain hospitals and to the provincial deputy ministers of health who agreed to assume the responsibility for establishing centres in strategic locations. Four centres were established in May 1957, and there are now 28 centres located in all provinces. It is expected that a number of other centres will be set up shortly.

The primary function of a centre is to provide a continuous service of information to the surrounding area on the nature of poisons in commercial preparations, and on the treatment of poisoning due to their ingestion. Because all centres are located in hospitals they actually provide both information and treatment. The contribution of the Food and Drug Directorate, in addition to setting up the information system and keeping it up to date, is to act as a central clearing house that summarizes reports, pools information and resources, and passes it on to the centres. Amendments and additions are furnished the centres periodically.

### **LABORATORY SERVICES**

There are five regional laboratories and two district laboratories concerned mainly with enforcement work and, secondly, with collaborative work and investigations. The district laboratories are used mainly for screening tests but they make final tests on a number of imports to shorten the time these products are detained at customs.

An example of a collaborative project involving two sections of the food and drug laboratories is the study of the methods for identifying the geographical origin of opium. The Organic Chemistry Section and the Food Chemistry Section have developed methods of analyses for this purpose. The United Nations Committee of Opium Experts recommended the adoption by the United Nations of a number of methods of opium analyses and this process of determination of country of origin of opium, for purposes of control of the international illicit traffic in opium.

The central laboratory in Ottawa consists of 11 sections each headed by an expert in the field of investigation indicated by the name of the section. These sections are organized for research and investigational work. Much of the fundamental research forming part of these studies has been reported in scientific literature.

#### **Microbiology Section**

The growing significance of staphylococci in association with severe infections of man and dairy cattle and with food poisoning warrants continuing research interest in this complex group of bacteria. The toxin has been shown present in market specimens of cheeses, sardines and pre-cooked frozen foods, using as controls specimens of comparable foods of bacteriological content with no likelihood of giving rise to poisoning. The frozen food specimens contained no viable staphylococci, but direct microscopic examination showed the presence of many coccoid cells, presumably having been killed in processing.

The question of the introduction of antibiotics into foods has been examined critically, and discursive papers have been published. A regulation permissive of chlortetracycline and oxytetracycline in poultry and fish with the limits of 7 and 5 parts per million in the respective foods has been enacted.

#### **Cosmetics and Alcoholic Beverages Section**

Studies on the metabolic fate of coal-tar dyes have been continued. Amaranth, a water-soluble, azo dye, used extensively in candies, ice cream and soft drinks, has been shown to be almost completely metabolized in rats except at very high levels of oral dosage. The results have indicated that at all reasonable dosage levels such as are found in foods the dye should be completely broken down in the intestinal tract.

Improved analytical methods have been developed for the oil-soluble dyes, used chiefly in dairy products (butter, margarine and cheese) in concentrations of about 25 parts per million. Previous attempts to develop reliable methods have been hindered by the difficulty of isolating the trace amounts concerned from accompanying lipid materials and natural pigments. A partitioning method has been developed which overcomes this problem. In addition, technics have been developed for the separation and identification of components of mixtures.

A review on hair colouring preparations has been carried out and several colour shampoos containing "para" dyes were noted. Coal-tar colour rinses were common as were numerous bleaching preparations. Other activities included the examination of a varied selection of cosmetics referred to the Section because of specific complaints from consumers.

### ***Vitamin and Nutrition Section***

Continued discussions have been held with the Canadian Pharmaceutical Manufacturers' Association regarding the dating of vitamin products. Regulations have been promulgated requiring that all drugs represented as containing vitamins carry either a single coded date of manufacture or an expiration date. The need for such regulations has been demonstrated again in a survey of the age of vitamin products on the Canadian market.

Further studies on the value of rape-seed oil as a food constituent have been carried out when fed in a purified diet for rats. Evidence obtained during the last year indicated that from a nutritional point of view there appeared to be no evidence that rape-seed oil should have any harmful effects if incorporated in moderate amounts into the Canadian diet.

### ***Biophysics Section***

Sixty samples of canned salmon, processed during the years 1956-57, have been examined for residual radioactivity due to radioactive fallouts. A number of samples of canned foods prepared prior to 1945 have been collected and will be used as reference levels in future investigations on residual radioactivity in foods.



TABLE 1  
FOODS EXAMINED BY THE FOOD AND DRUG DIRECTORATE  
During the Fiscal Year 1957-58

Classification	Total Imports	Imports				Total Domestic	Domestic				Total
		Analyses		Label			Analyses		Label		
		Sat.	Unsat.	Sat.	Unsat.		Sat.	Unsat.	Sat.	Unsat.	
Alimentary Paste.....	1	1			1	19	10	9	12	5	20
Baking Powder.....	4	4		1	1	3	3		2		7
Alcoholic Beverages.....	10	10		1	2	98	88	4	3	8	108
Non-Alcoholic Beverages.....	447	405	32	15	28	665	602	61	355	89	1,112
Coffee.....	141	135	2	6	2	7	6	1	1	1	148
Breakfast Foods.....	1				1	52	36	13	19	5	53
Cacao Products.....	409	316	91	1	6	53	32	21	24	4	462
Chemicals.....	3			3							3
Confectionery.....	1,432	1,137	278	198	147	1,622	1,023	596	751	68	3,054
Dairy Products, other.....	3				3	224	119	102	72	17	227
Butter.....						1,393	819	561	6	2	1,393
Cheese.....	123	101	19	77	17	708	350	357	20	5	831
Ice Cream.....	1				1	106	60	46	5	1	107
Dessert Powders.....	55	46	6	14	15	31	11	20	7	8	86
Dietetic Foods.....	19	6		6	13	35	27	7	2	7	54
Eggs and Egg Products.....	1	1		1		37	27	10		1	38
Fats and Oils.....	228	224		11	7	293	207	84	23	7	521
Flavouring Preparations.....	14	5	2		8	103	78	25	32	41	117
Food Colours.....	69	64	4			470	336	134	50	46	539
Fruit, Canned, Dried, Fresh.....	1,664	1,521	140	193	8	714	531	170	92	17	2,378
Dates.....	800	598	202	16		17	14	2	2	1	817
Figs.....	768	743	25	14		4	4				772
Jams, Jellies, Marmalades.....	139	113	13	39	7	939	414	523	654	39	1,078
Fruit Juices.....	113	104	4	67	25	26	21	4	3	7	139
Fruit, Glazed and Candied.....	14	14				24	5	19			38
Gelling Agents.....	13	11	1	1		6	6				19
Grain and Bakery products.....	288	183	74	163	52	583	308	258	268	124	871
Marine Products.....	158	117	39	66	15	431	292	135	168	31	589
Meat and Meat Products.....	401	351	46	171	6	1,350	1,021	329	46	43	1,751
Nuts, Unshelled.....	1,274	1,191	67			10		10			1,284
Nuts, Shelled.....	5,256	4,877	377	12	2	489	81	398	395	63	5,745
Pickles, etc.....	6	5		4	2	45	45		42		51
Poultry Meat, etc.....	12	5	7			320	202	118	89	35	332
Preservatives.....	3	1			2	5	3	2	1		8
Salt.....	4		2	2	1	1		1			5
Soup and Soup Mixes.....	7	2			7	91	85	6	26	2	98
Spices.....	801	685	101	26	13	474	290	176	453	4	1,275
Sweetening Agents.....	203	201		24	19	198	149	47	78	60	401
Vegetables.....	1,169	1,145	5	42	10	1,945	1,739	199	149	26	3,114
Vinegar.....	85	84		25	4	1	1		1		86
Meat and Vegetables, Prep.....	6	6		6		61	53	8	19	15	67
Miscellaneous.....	19	6		1	12	92	27	64	3	3	111
Total.....	16,164	14,417	1,537	1,206	438	13,745	9,125	4,520	3,873	785	29,909

TABLE 2

DRUGS EXAMINED BY THE FOOD AND DRUG DIRECTORATE  
During the Fiscal Year 1957-58

Classification	Total Imports	Imports				Total Domestic	Domestic				Total
		Analyses		Label			Analyses		Label		
		Sat.	Unsat.	Sat.	Unsat.		Sat.	Unsat.	Sat.	Unsat.	
Allergens.....	1			1	1						1
Histamines.....	4			1	3	16	10	5	8	8	20
Analgesics.....	103	1		2	98	251	198	48	65	176	354
Narcotics.....	41	1		1	40	1,179	490	689	4	1	1,220
Anaesthetics.....	27			5	22	29	22	4	13	9	56
Local Anti-Infectives.....	26			7	19	32	9	10	8	13	58
Systemic Anti-Infectives.....	75	1	10	2	62	104	72	29	45	57	179
Astringents.....	4			1	3	1	1				5
Autonomic Drugs.....	41	1		4	37	100	78	18	31	68	141
Blood Derivatives and Plasma Substitutes.....	6	6				17	17				23
Coagulants and Blood Formation Agents.....	20	2	1	6	12	10	4	5	1	7	30
Cardiovascular Agents.....	43			4	39	52	36	9	17	29	95
Depressants and Stimulants.....	86	4		9	73	382	302	79	47	215	468
Contraceptives.....	4			3	1						4
Diagnostic Aids.....	2			1	1						2
Diuretics.....	17			1	16	88	67	19	26	59	105
Gastro-Intestinal Agents.....	75	1	1	2	71	53	32	16	30	18	128
Hormones and Synthetic Substitutes.....	126	1		15	110	140	114	25	39	60	266
Immunologic Agents.....	13			2	11						13
Agents used in Metabolic Disorders.....	31			4	27	30	19	5	12	16	61
Oxytoxics.....	2			1	1						2
Pharm. and Therap. Aids.....	145	137		2	6	4	2	2		2	149
Muscle Relaxants.....	2				2	8	8		1	6	10
Unclassified.....	732	8		15	712	28	15	6	4	12	760
Total.....	1,626	163	12	88	1,367	2,524	1,496	969	350	756	4,150

TABLE 3

VITAMINS, COSMETICS AND DEVICES EXAMINED BY THE FOOD AND DRUG  
DIRECTORATE

During the Fiscal Year 1957-58

Classification	Total Imports	Imports				Total Domestic	Domestic				Total
		Analyses		Label			Analyses		Label		
		Sat.	Unsat.	Sat.	Unsat.		Sat.	Unsat.	Sat.	Unsat.	
Single Vitamins.....	78	3	1	4	72	289	213	61	39	181	367
A and D Vitamin Preparations.....	3	1			2	76	63	13	9	52	79
B Vitamin Preparations.....	27			2	25	238	104	134	55	126	265
Multivitamins.....	99	2	1	1	98	291	105	185	64	154	390
Unclassified Vitamins.....	103	2	1	3	100						103
Mineral Supplements.....	20				20	4	2	2		4	24
Total.....	330	8	3	10	317	898	487	395	167	517	1,228
Cream Preparations.....	34			1	33	11	8	3			45
Make-up Preparations.....	8			1	7	11	1		3	7	19
Perfumes, etc.....	1				1						1
Hair Preparations.....	14				14	31	28	2	27	1	45
Hand Creams.....	1				1	5	4	1		1	6
Dental.....	6		3	1	4	78	53	25	71	3	84
Shaving Preparations.....	3				3						3
Total.....	67		3	3	63	136	94	31	101	12	203
Devices.....	72			1	71						72

## **DIVISION OF NARCOTIC CONTROL**

### **GENERAL**

During the year under consideration the maintenance of supplies of narcotics to meet medical needs presented no great problem to the Division. Our liaison with licensed dealers ensured our being advised of their requirements, and the complete co-operation of international authorities and suppliers in other countries made the securing of all items a matter of routine.

### **DOMESTIC TRADE**

In the calendar year 1957, 158 firms were licensed as narcotic dealers. Of these 64 were licensed as distributors only, while 94 were licensed to manufacture varying types of narcotic products. All firms applying for licences of either type were carefully screened to ensure qualified personnel and the safeguarding of narcotic stocks at each dealer's premises.

In the same period 118 licences to import were issued by the Department. Moreover 49 export licences were issued, in the main relating to less potent narcotic products and chiefly directed to the West Indies. The system of licences and import-export certificates required by international authority was maintained without difficulty and no illicit problem was encountered in the movement of licensed narcotic material to and from Canada.

The Division continued its policy of recording and studying the narcotic purchases of all licensed dealers, pharmacists, hospitals and members of the related medical professions, a task which is becoming more diversified with the advent of new synthetic narcotic preparations, and the adoption of the metric system of reporting by some licensed dealers.

Bearing in mind population growth, no great increase in the consumption of narcotics was noted during the year. However, it is already noticeable that as the consumption of new drugs increases, that of opium derivatives decreases. Information in respect to imports and estimated consumption of narcotics may be found on pages 25 and 26.

Seven pharmacist auditors continued to give special attention to determining that regulations concerning the dispensing of narcotics and the maintenance of adequate security measures obtained at all times in legal narcotic outlets.

### **SUPERVISION MAINTAINED OVER RETAIL PHARMACIES**

Our usual procedure of obtaining regular reports of narcotic sales from pharmacists has been continued with about 1,000 reports being obtained and studied each month. It is apparent from these reports that physicians are prescribing less morphine and other opiates and more of the synthetic analgesics such as Pethidine and Methadone. New cases of addiction coming to notice, where the medication is obtained from legitimate sources, are fewer as the physicians of Canada appear to be more alert to the dangers of the continued use of addiction-producing drugs in cases of chronic or neurotic illnesses.

Noticeable from the sales reports now being received is a trend on the part of some criminal addicts to obtain prescriptions for Methadone from physicians in Western Canada. An intensive survey is being made of this situation.

### **LIAISON WITH MEDICAL, PHARMACEUTICAL AND NURSING PROFESSIONS**

As has always been the case a maximum of co-operation was received by the Division from all provincial registrars of medical, pharmaceutical and nursing colleges and associations. Tremendous assistance was provided by provincial registrars of medical and pharmaceutical organizations in supplying the Division with information in respect to the status of their members. Lectures were given at various universities across Canada to graduating classes in medicine and pharmacy, as also, a series of lectures to custodial officers from federal penitentiaries, municipal police and other related organizations at the Calderwood Staff Training College at Kingston.

### **CONVICTIONS**

Illicit supplies continue to be smuggled into the country and are readily available to addicts. As a result of police activity 454 convictions for offences under the Opium and Narcotic Drug Act were registered in 1957. Of these 425 involved the drug heroin which obviously remains our great problem. Details of convictions and drugs involved may be found on page 24.

The preponderant age group for both male and female offenders is between 25 and 40. Only one conviction of a professional person involving a retail druggist was registered.

### **INTERNATIONAL CO-OPERATION**

The United Nations Narcotic Commission was supplied with all routine reports and with developments in the narcotic field in Canada as well as with reports of significant seizures made here.



TABLE 4  
CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT  
During the Calendar Year 1957

Province	NATURE OF OFFENCE					DRUGS INVOLVED									
	Section 10	Section 13 (1)	Illegal Possession	Trafficking	Possession for the Purpose of Trafficking	Total	Heroin	Codaine	Morphine	Marihuana	Poppy Heads	Demerol	Methadone	Alleged	Total
Newfoundland.....															
Prince Edward Island.....															
Nova Scotia.....															
New Brunswick.....															
Quebec.....			5	7	1	13	5	1	1	4				2	13
Ontario.....	2		93	1	15	111	101		4	2		3	1		111
Manitoba.....			14		2	16	14	1				1			16
Saskatchewan.....															
Alberta.....			4			4	2				1	1			4
British Columbia.....		1	215	76	18	310	303		4				2	1	310
Total.....	2	1	331	84	36	454	425	2	9	6	1	5	3	3	454

(Of the above there were 3 males and 1 female in Ontario, 1 male in Alberta, 23 males and 9 females in B.C. who had two convictions, as well as 8 males and 1 female who had three convictions in B.C. and 2 males who had four convictions in B.C.)

TABLE 5  
SHOWING IMPORTS OF MAIN NARCOTICS  
For period 1948-57 inclusive

Unit of Weight—Kilogramme (Pure)

Year	Raw Opium	Medi- cinal Opium and Preps.	Papav- erine	Mor- phine	Hydro- codone	Hydro- mor- phone	Ethyl- mor- phine	Codaine	Phol- codeine	Cocaine	Alpha- prodine	Levor- phanol	Metha- done	Pethi- dine
1948.....	90,720	86,184	79,635	85,418	2,636	0,737	26,054	965,544	.....	28,151	.....	.....	25,288	146,711
1949.....	48,722	90,776	26,734	89,813	3,161	0,312	40,625	1,070,240	.....	18,881	.....	.....	30,278	116,405
1950.....	45,615	113,400	36,628	66,254	4,649	0,595	34,218	2,644,176	.....	38,102	.....	.....	2,608	155,358
1951.....	54,658	125,392	47,401	87,104	8,675	0,482	31,128	1,056,718	.....	29,852	.....	.....	2,069	260,508
1952.....	1,502	147,420	43,035	33,254	6,407	0,425	39,775	1,647,078	.....	31,808	.....	.....	9,327	349,924
1953.....	49,442	106,823	43,659	78,246	5,018	0,368	31,411	1,153,335	0,595	49,612	2,636	0,793	5,897*	323,449*
1954.....	5,897	149,688	84,936	60,499	17,775	0,198	39,378	2,814,390	17,775	48,308	1,587	0,567	9,185	592,061
1955.....	31,525	149,688	86,836	52,192	5,301	0,425	24,182	2,396,624	5,698	29,597	6,548	0,567	9,554	430,665
1956.....	17,236	145,350	87,448	47,332	13,012	0,471	55,291	1,893,242	2,602	32,865	2,464	0,338	3,911	323,104
1957.....	2,000	90,902	93,770	30,857	20,013	0,355	19,941	2,039,416	3,872	31,536	5,548	0,353	6,489	534,702

\* Pure drug figure utilized since 1953.

TABLE 6  
SHOWING ESTIMATED CONSUMPTION OF THE MAIN NARCOTICS  
For period 1948-57 inclusive

Year	Raw Opium and Preps.	Medi- cinal Opium Preps.	Papav- erine	Mor- phine	Heroin	Hydro- mor- phone	Codeine	Ethyl- morphine	Phol- codeine	Cocaine	Alpha- prodine	Levor- phanol	Metha- done	Pethi- dine
1948.....	59,251	170,837	40,143	87,148	28,208	0,624	1,124,701	29,257	.....	39,888	.....	.....	.....	159,951
1949.....	56,983	102,230	38,528	77,055	25,458	0,454	1,259,959	26,904	.....	33,935	.....	.....	10,915	194,254
1950.....	66,055	152,380	46,267	74,079	28,350	0,454	1,292,250	31,270	.....	39,888	.....	.....	11,255	206,104
1951.....	57,267	161,397	38,613	71,584	26,309	0,425	1,598,486	44,254	.....	36,004	.....	.....	12,871	252,769
1952.....	57,975	167,974	57,984	71,980	22,000	0,567	1,795,831	21,971	.....	37,989	.....	0,822	11,000	285,966
1953.....	21,603	142,771	47,940	76,318	23,474	0,595	1,508,192	44,850	0,227	40,030	0,822	0,964*	8,845*	298,015*
1954.....	51,568	158,023	73,937	70,024	28,123	0,085	1,819,701	16,812	5,670	33,198	3,147	0,368	10,858	335,324
1955.....	20,950	112,294	71,754	49,329	12,616 <sup>(a)</sup>	0,425	2,286,944	31,780	4,649	35,693	4,111	0,624	5,953	372,434
1956.....	28,306	185,820	97,995	50,402	6,158	0,390	1,885,903	28,835	6,358	34,507	3,262	0,478	7,530	478,143
1957.....	21,500	112,519	90,158	43,348	5,605	0,319	2,407,116	30,284	4,270	31,921	5,945	0,413	5,583	333,078

\* Pure drug figure utilized since 1953.

(a) Imports of heroin banned as of 1st January, 1955.

# HEALTH SERVICES DIRECTORATE

## CONSULTANT SERVICES

### BLINDNESS CONTROL

The Division carried on its educational program for the preservation of vision by means of pamphlets, magazine articles and radio scripts. A great deal of the work of the Division consisted of the issuing of blindness certificates based on oculists' reports to provincial authorities as required by the regulations of the Blind Persons' Act. Other activities included advising the National Health Grants Administration with regard to projects concerning the preservation of vision and eye research. Provincial officials were also advised on problems of vision.

#### *Treatment Scheme*

The treatment scheme, for suitable recipients of blindness allowance, was initiated by the Division in 1948 as an experiment by authority of an order-in-council. As the experiment was successful, the scheme was given permanence by another order-in-council in 1952. In the past year, 94 patients were treated and 68 had vision restored, mostly by cataract extraction. Since 1948 some 433 cases have been treated with 322 successes as follows:

#### SUMMARY OF TREATMENT CASES

from 1948 to March 31, 1958

<i>Province</i>	<i>Successful</i>	<i>Unsuccessful</i>	<i>Total</i>
Nova Scotia	14	10	24
New Brunswick	62	17	79
Quebec	157	54	211
Ontario	73	24	97
Newfoundland	1	1	2
Manitoba	9	2	11
Saskatchewan	6	3	9
<b>TOTALS</b>	<b>322</b>	<b>111</b>	<b>433</b>

#### *Glaucoma*

Glaucoma causes more blindness than any other eye disease. Surveys indicate that about 2 per cent of all persons over 40 years of age have glaucoma and that the incidence of the disease is increasing. Glaucoma is thus our most serious eye problem. Much blindness occurs as a result of undiagnosed and untreated glaucoma.

Since 1950, 10 outpatient glaucoma clinics for needy persons have been set up in Canada under the National Health Grants Program—an increase of 2 clinics over the previous year. The clinics, usually located in hospitals associated with university medical schools, are preserving the vision of many hundreds of patients but more such clinics are needed.

### **Eye Research**

Research under the Health Grants Program is being conducted at the Toronto General Hospital, Hospital for Sick Children and the Banting Institute. The research concerns uveitis, virus eye diseases, corneal transplantations and preservation of corneas for future transplantations. A research eye bank has been set up at the Banting Institute in association with a general eye bank sponsored by the Canadian National Institute for the Blind (other C.N.I.B. eye banks are at Montreal and Vancouver).

Donor eyes for corneal transplantation are usually obtained from recently deceased persons. Certain technical and legal requirements render it necessary to have a well organized plan for securing the eyes. If a person, before death, signifies his desire to donate his eyes for medical purposes or for research, it is still necessary, after his death, for the doctors to obtain the consent of the next of kin. Moreover, the eyes must be removed and properly processed within several hours of death. With increasing publicity and the extension of eye banks, there are now fewer long delays in obtaining donor eyes. Nevertheless, there is still a shortage of donor eyes.

## **CHILD AND MATERNAL HEALTH DIVISION**

The Division continued to carry on a program predominantly of a consultative nature, having as its broad objective the promotion of optimum health for mothers and children. In the presence of a relatively high birth rate and significant immigration of young families, the provision of health services for almost one-half million mothers per year and a population of almost 5 million children under 15 years of age offers a real challenge to health authorities everywhere in Canada.

### **National Health Grants**

The Division continued to provide assistance to the Health Grants Administration in the appraisal of projects for the utilization of the Crippled Children and Child and Maternal Health Grants in particular. During the year changes were made in the terms of utilization of the Crippled Children's Grant. This change will broaden the scope of this grant and will, it is hoped, stimulate the further development of programs for the care of children with disabilities such as heart conditions and hearing defects. The Child and Maternal Health Grant continued to provide funds for the strengthening of provincial medical and nursing consultant services. Funds were also used to provide technical equipment for hospitals and this was associated with considerable assistance provided for the advanced training of doctors and nurses in maternal and child care. There was an increase in funds provided for the extension of dental services to children and new projects to improve diagnostic and treatment facilities for handicapped children were approved.

A significant proportion of funds were utilized for the support of research projects. The research program continued to focus attention on the problems of the maternal and newborn period, areas which had received relatively little attention heretofore.



### **Field Activities**

The Chief of the Division and the Nursing Consultant spent considerable time visiting provincial and local health departments, hospitals and other health agencies. Lectures were given to medical students and to nursing students at leading university schools of nursing.

Every effort was made to maintain liaison with professional organizations by participation in committee activities, attendance at annual meetings and other means.

### **Educational Materials**

The development of educational materials continued to occupy a great deal of professional time. Four new educational tools became available during the year.

*Care of the Sick Child at Home*

*Posture and Rest Positions for Expectant Mothers*

A series of four posters on accident prevention.

An accident pamphlet and check list on *Keep Them Safe*.

Old materials continued to be in demand, particularly those prepared for use in prenatal education programs.

### **Other Developments**

An important milestone in the history of the Division was reached with the establishment in January 1958, of a permanent Maternal and Child Health Advisory Committee. This committee is to be made up of provincial directors of maternal and child health and a number of non-government specialists. The terms of reference of the committee are broad, namely, to advise and assist the Minister of National Health and Welfare on any matter concerning maternal and child health in Canada; to provide an opportunity for exchange of information with provincial health workers; to bring to the department the counsel of specialists more closely allied with the clinical and teaching fields and to study and make recommendations on any matter related to the health of mothers and children in Canada. The first meeting of the Advisory Committee is to be held early in the next fiscal year.

### **Indices of Progress**

Reductions in maternal and infant mortality rates are widely recognized as valuable reflections of the general level of maternal and child care. The prevention of needless maternal and infant deaths remains a basic objective in all maternal and child health programs.

### **Maternal Deaths**

In 1956 there were 278 deaths of mothers in Canada. This represented a rate of .6 deaths per 1,000 live births. In 1946 there were 623 deaths in 9 provinces and a rate of 1.8 deaths per 1,000 live births.

There was considerable variation in rates among provinces in 1956, the highest rate being 1.5 and the lowest 0.2.

## MAJOR CAUSES OF MATERNAL DEATHS, 1956

	No.	Per cent
Haemorrhage .....	77	28
Toxaemia .....	61	22
Sepsis .....	43	15
Prolonged labor, disproportion and other trauma .....	41	15
Others .....	56	20
<b>TOTAL</b> .....	<b>278</b>	<b>100</b>

Obviously good maternity care is not being received by all mothers who need it. Many of these maternal deaths are preventable. For the first time in a number of years haemorrhage was the leading cause of death. Better hospital facilities with transfusion services can contribute greatly to a reduction in deaths from such complications at delivery.

Although there are few accurate statistics available on maternal illness which does not result in death, the association between maternal complications and complications in the newborn infant is well recognized. Improvement in services to mothers can be expected to result in a saving of infants' lives as well as mothers' lives. There would appear to be two necessary steps. One is to improve facilities for maternity care and the other is to ensure that mothers requiring care avail themselves of it.

**Infant Deaths**

In 1956 there were 450,739 live births in Canada, a birth rate of 28 per 1,000 population. There were 14,399 infants who died in their first year, an infant mortality rate of 32 per 1,000 live births. The rate 10 years ago was 48. There was considerable variation in infant mortality rates among the provinces—the highest rate being 43 and the lowest 24. Canada has obviously shared in the world-wide improvement in infant mortality. We have cause for concern, however, since many other countries with no higher standards of living save more infant lives. In 1956, 11 countries had lower rates.

As deaths in the first year decrease, deaths in the first month of life, or neonatal deaths, make up a larger proportion of the total. In 1956, 9,065 deaths, or 62 per cent, occurred in the first month of life.

If to 9,065 newborn deaths are added 6,976 stillbirths, the total of 16,041 Canadian infant lives lost before one month of age is formidable. The size of the problem is further illustrated by the fact that in 1956 this number of deaths was exceeded only by deaths at all ages from malignant disease and heart disease.

## MAJOR CAUSES OF NEWBORN DEATHS, 1956

	No.	Per cent
Immaturity unqualified (as contributory factor 2,858) .....	2,151	24
Injury at birth .....	1,486	17
Asphyxia and atelectasis .....	1,592	17
Congenital malformations .....	1,438	16
Pneumonia, diarrhoea and other infections .....	704	7
Erythroblastosis .....	309	3
Ill-defined diseases .....	680	8
All other causes .....	705	8
<b>TOTAL</b> .....	<b>9,065</b>	<b>100</b>

Immaturity remained the leading cause of death in the newborn period. It is seen, too, that immaturity was as well a contributory factor in babies dying of other causes. Of all newborn deaths 55 per cent occurred in immature infants. This underlines the importance of the hospital care of newborn infants, since 88 per cent of infants are now born there. It is clear that reductions in maternal and infant mortality are urgent health problems which require the co-operative efforts of physicians, hospital services and public health workers for their solution.

## DENTAL HEALTH DIVISION

Virtually every person in Canada suffers some form of dento-oral disease or abnormality during his or her lifetime.

Not more than 3 or 4 of every 10 persons in this country obtain adequate dental care. In the general population less than one-fifth of total prevailing needs for dental treatment are met; in the case of children, where the need for dental care is most urgent and important, less than 10 per cent of treatment needs are being met. The annual cost of the relatively small proportion of needed dental treatment which is actually obtained by the citizens of Canada is about \$80 million.

It is physically and financially impossible to deal with oral ill-health and disability by treatment measures alone.

The Dental Health Division, in recognition of these facts, directs its efforts to the prevention of dento-oral diseases and abnormalities, rather than to treatment of their terminal effects, and to encouragement of the preservation and maintenance of oral health.

### *Research and Surveys*

For more than a decade the Dental Health Division's major research activity has been the investigation of the dental effects of water fluoridation.

The Brantford-Sarnia-Stratford Water Fluoridation Study conducted by the Division, with the assistance of the Research and Statistics Division is the only Canadian study of this important public health procedure to be undertaken. It shares, also, the distinction of being one of the three pioneer studies of water fluoridation anywhere in the world.

Fluoridation was instituted in Brantford in June 1945, when the fluoride content of that city's water supply was raised to a concentration of one part per million. Study findings during the current year revealed that from 1948 to 1957 the occurrence of tooth decay among Brantford children aged 6-14 years decreased by more than 60 per cent. Children aged 6-8 years in 1957, who had been nourished from conception and birth with fluoridated water, had 72 per cent fewer decayed teeth than were found among children of the same age group in 1948. No significant differences now exist between children born and reared in Brantford since fluoridation began, and that of children of comparable age in Stratford, where the water has contained naturally occurring fluoride for more than 40 years.

By June 1959, Brantford will have completed 14 years of experience with fluoridation. There will be available for study then, a group of children up to age 14 years, whose tooth development and calcification has taken place entirely subject to the influence of fluoride. It is expected that the present phase of the Brantford Study will be terminated following study and analysis of the dental caries experience of those children at that time.

The effectiveness and safety of water fluoridation in reducing the occurrence of tooth decay has been established beyond scientific doubt. Its adoption as a public health procedure, however, depends upon the availability of a public water supply. Fluoridation of individual water sources must be considered in the light of present evidence unsafe, impractical and uneconomic. Hence the benefits of this preventive measure are not available to between 35 and 40 per cent of the population.

These considerations have made it necessary to seek other measures for the prevention of tooth decay. For the past 5 years the Dental Health Division has been engaged in studies of the effectiveness of various fluoride solutions, topically applied to the teeth, in reducing the incidence of tooth decay among children.

Evaluation of the usefulness of this and other such caries preventive measures is a long-term procedure, measurable only over a period of several years.

In addition to its clinical studies, the Dental Health Division has carried out a number of studies, during the current year, relating to dental economics, methods of financing group-sponsored child dental care programs, and the implications of dental ill-health on health insurance programs.

### ***Education and Information***

Prior to 1946, almost no dental health materials were designed and produced in Canada for public information.

To-day, the Division's pamphlets, posters, films and filmstrips have become the major sources of oral health information for Canadian citizens. These aids are widely used by health educators and others concerned with teaching dental health in every province in Canada, and frequently are requested by health education agencies in other countries.

Extensive revision of the Dental Health Manual for Teachers and Nurses, first published in 1951, has been completed. A film dealing with the prevention of malocclusion, produced last year, has been shown to the Canadian Dental Association, as well as to groups of orthodontic specialists. A new exhibit, showing the place and importance of health education in dental health programs, and the nature and extent of educational materials available from the department has been shown at meetings of dentists and public health workers.

### ***Consultant and Advisory Services***

The extension of provincially and locally operated dental health programs consequent to introduction of the National Health Grants Program has resulted in steadily increasing requests for consultation and technical advice from the provincial health departments and other agencies concerned with dental health programs.

The Division is frequently called upon for technical advice concerning fluoridation and also topical fluoride therapy by the dental profession and health agencies. Growing public interest in fluoridation has given rise to many requests for technical information and advice concerning this procedure by individual citizens.

### ***Health Grants***

During 1957-58, grant-aided programs and projects directly concerned with improvement of oral health operated in all 10 provinces and in the Northwest



Territories. Assistance to these programs from the National Health Grants Program during the past year amounted to \$719,949.90.

Grant-aided oral health programs are directed chiefly at the control and prevention of dental and oral diseases and the promotion of oral health, through research, education and systematic dental care programs for pre-school and school-age children. Grant funds are being used, also, to provide essential oral health care for patients in sanatoria and mental hospitals and to assist in the training of professional and technical dental personnel.

## HOSPITAL DESIGN

This Division is a consulting service to provincial health departments and to those concerned with the planning and operation of hospitals. It co-operates with the provinces in their efforts to promote sound planning for health institutions of all types.

Plans of every hospital requesting assistance under the Hospital Construction Grant in the National Health Grant Program are studied to see that they conform to minimum standards of hospital construction as prepared by this Division. These plans are also studied to determine the amount of federal assistance payable under the terms of the grant.

### **Consultations**

The provinces, and also a number of architectural firms, forward drawings to this Division during their preliminary stage for criticism and consultation prior to submitting a formal request for federal assistance. The advantages of this procedure are that the plans can be easily altered at an early stage in their development. This Division produced alternate plans which have been adopted wholly or in part, for many hospital projects during the past year.

Because of the enlarged grants for hospital construction, the considerable amount of research planning to be undertaken, and also the Hospital Insurance and Diagnostic Services Act, which will soon be in operation in many provinces, 3 additional positions have been approved for this Division.

### **Hospital Construction Grant**

The past fiscal year has seen a considerable expansion in grants for hospital construction. Besides a doubling of the grants for general hospital beds and bed equivalents, and the enlargement of other bed grants, assistance is now available for major renovations to existing hospitals.

With the acceptance of hospital insurance by 9 provinces, the problem of adequate hospital accommodation becomes of vital importance, and although it will be bed shortage that will receive the emphasis, it is also important that areas do not over build and thereby cause an unnecessary expense to all concerned.

Since the inception of the Hospital Construction Grant in 1948 more than \$92,800,000 has been allocated toward the construction of accommodation for more than 68,800 patient beds of all types, 9,106 bassinets for newborn, and 12,826 nurses' beds. Grants have also been approved on a floor area basis for community health facilities, which include such areas in hospitals as out-patient departments, emergency, radiology, laboratories, pharmacies and remedial therapy departments. Grants on a similar basis are also approved for training areas for hospital personnel.



Conferences were held on hospital planning and to study problems pertaining to the Hospital Construction Grant with provincial health authorities in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Nova Scotia. Many hospitals throughout the country were visited at their request to assist them with their planning problems, and similarly many conferences were held in Ottawa with hospital authorities and their architects with regard to possible federal construction grants and constructive criticism of their proposed plans.

### **Other Activities**

During the past year the Chief of the Division gave papers on various subjects relating to hospital planning to the Ontario Hospital Association and the Maritime Hospital Association. He also gave a day of lectures on hospital planning to students of the Hospital Administrators' Course at the University of Toronto. He has continued to act in a consulting capacity for hospital planning of the armed forces and is a member of the Hospital Requirements Committee (National Defence), and the Committee on the Control of Infections in Hospitals, as well as Chairman of the C.S.A. Committee on Safety Code for Hospital Hazards.

## **MENTAL HEALTH DIVISION**

### **Introduction**

During the year the Mental Health Division continued its program of assisting the provinces in the expansion and improvement of their mental health services. The differing requirements of the 10 provincial mental health services have been carefully taken into account and the Division has attempted to promote those programs offering promise of an improvement in the treatment services provided for the mentally ill. This co-ordination has involved not only the provincial mental health services but the various professional associations concerned, and university departments offering training in this field.

### **Mental Health Grant**

Total expenditures under the Grant have continued to rise and it is now apparent that the requests for funds from many of the provinces for next year will exceed the money available. Since this is not merely a reflection of rising costs but is principally due to a significant expansion of facilities, staff and treatment programs, we are faced with the prospect of having to curtail any further financial assistance to the provincial mental health services until or unless the Grant itself is increased.

Support to mental hospitals and mental health clinics has shown a continued slight increase; psychiatric services in general have continued their more recent and rapid expansion. The amount allocated for research is roughly equivalent to last year and there has been very little change in the research program.

A major problem is the development of provincial mental health divisions with staff adequate to plan and direct province-wide programs to prevent as well as to treat mental illnesses. Consultant positions in psychiatry, psychology, social work, psychiatric nursing, occupational therapy and research are only gradually being established in the provinces. Thus, support to the provincial mental health divisions continues to be the smallest type of expenditure under the Grant.

In distinct contrast to the generally increasing expenditures in other categories, support to training programs since 1950 has shown both an actual and a relative decline. It has been a drop from nearly half a million dollars annually to about a quarter million dollars, that is from nearly 16 per cent of the total Grant to not more than 3½ per cent. Since a supply of well trained personnel is ultimately dependent on first rate training programs, this trend could have very serious implications and might well impede future progress. Related to this is the levelling off of expenditures for bursaries. Certainly, this is not a reflection of a decreased need for the training of additional personnel but rather a failure to recruit sufficient personnel to meet the need. Further efforts will have to be made in these areas as it has become apparent that the continuing shortage of qualified professional personnel is one of the critical aspects of mental health programs in this country.

The actual allocations and expenditures referred to are detailed in tables at the end of this report.

### **Consultant Services**

One of the important aspects of the Division's work has been the provision of consultant services to the provinces, to other divisions of national health and welfare and to other federal government departments, on research design, the evaluation of treatment, employment policies, training of personnel and other related topics. That provision of such aid is welcome is evident by the steadily rising number of requests received by the Division.

### **Consultant in Psychiatry**

The Consultant in Psychiatry, Dr. J. E. Gilbert, was appointed in May and upon resignation of the Chief of the Mental Health Division, he was made responsible for the activities of the Division in January.

### **Consultant in Psychology**

In order to provide continuing information about developments in psychology, a review of psychological services in provincial mental health services was undertaken in collaboration with the provincial mental health directors and their senior psychologists. Stemming from a concern over the lack of sufficient training facilities for psychologists in Canada, a review of all university graduate departments of psychology was initiated.

Considerable assistance was given to the provincial mental health services in their efforts to recruit additional psychologists.

### **Consultant in Social Work**

Consultant services were provided to the Committee on Mental Health Services of the Canadian Mental Health Association in the drafting of a statement on the "Functions of Social Workers in Mental Health Services".

Considerable assistance has been given to various provinces, at their request, in the recruitment of additional social workers through the provision of salary reviews, and suggestions regarding personnel policies and training standards; several services have shown a very favourable development.

### **Consultant in Research and Statistics**

In the field of research, under the Mental Health Grant, investigators in Manitoba, Saskatchewan and British Columbia were visited during the year and at

the request of the Verdun Protestant Hospital and in co-operation with the Province of Quebec a study was begun, analyzing the discharges from and admissions to that hospital.

### **Technical Officer**

This year, following critical review by the Advisory Committee and provincial health educators, 6 new pamphlets were published: *Building Self-Confidence*, another Child Training Series folder; *Adolescence*, and *Understanding the Young Adult*, two 16-page booklets dealing with the developmental and emotional aspects of these age groups; a new recruitment series folder, *Employment Opportunities in the Mental Health Field* for trades and technical personnel; *The Later Years*, first of a series on mental health for older people; and finally *Helping Families in Trouble*, which deals with stress in family life. Also published was an 8-page supplement to "Canada's Health and Welfare" entitled *The Quiet Ones* dealing with mental retardation. The annual *Fact Book* on mental illness in Canada was again revised and published. Distribution of non-technical information material through provincial health departments totalled over 2 million pieces.

Through a special arrangement with this department, permission was granted to the Mental Health Materials Center in New York to reprint and distribute in the United States, on a non-profit basis, the entire Child Training Series of folders. Sale of these Canadian "reprints" to date in the United States has numbered 2 to 3 million.

Through the National Film Board the Division produced this year, in English and French, another mental health film *Stigma* which was designed for broad public use to combat the harmful stigma too often attached to patients discharged from mental hospitals.

TABLE 7  
MENTAL HEALTH GRANT ANALYSIS  
Fiscal Year ending March 31, 1958

Province	Amount Available *	Amount Approved	Amount Expended	% Expended of Amount Available
Newfoundland . . .	\$ 215,349	\$ 214,149	\$ 189,255	87.9
Prince Edward Island . . . . .	75,400	75,141	74,382	98.6
Nova Scotia . . . . .	321,253	319,144	300,934	93.7
New Brunswick . . .	273,735	273,735	273,735	100.0
Quebec . . . . .	2,050,726	1,995,014	1,939,038	94.6
Ontario . . . . .	2,344,924	2,314,728	1,956,131	83.4
Manitoba . . . . .	355,193	352,077	345,475	97.3
Saskatchewan . . . .	417,118	417,021	401,824	96.3
Alberta . . . . .	502,362	485,254	462,931	92.1
British Columbia . .	616,456	603,679	582,358	94.5
Canada . . . . .	7,172,516	7,049,942	6,526,063	91.0

\* After transfer of funds between grants.

#### DISTRIBUTION OF FUNDS APPROVED

	1956-57		1957-58	
	\$	%	\$	%
Mental Health Divisions . . . . .	222,089	3.2	193,515	2.8
Mental Hospitals . . . . .	3,559,786	51.9	3,767,481	53.4
Mental Health Clinics . . . . .	834,191	12.2	869,317	12.3
Psychiatric Services in General Hospitals . .	946,787	13.8	922,907	13.1
Training Programs . . . . .	225,995	3.3	220,072	3.1
Bursaries . . . . .	450,141	6.6	542,531	7.7
Research . . . . .	616,134	9.0	534,119	7.6
Total . . . . .	6,855,123	100.0	7,049,942	100.0

TABLE 8

AMOUNTS APPROVED UNDER THE MENTAL HEALTH GRANT  
1948-58

Province	1948-49	1949-50	1950-51	1951-52	1952-53
	\$	\$	\$	\$	\$
Newfoundland.....	*	78,439	117,019	133,250	138,673
Prince Edward Island.....	50,642	51,578	44,964	34,820	47,245
Nova Scotia.....	85,179	150,818	140,455	149,145	146,405
New Brunswick.....	88,906	54,019	136,282	153,460	171,299
Quebec.....	8,490	1,047,047	1,108,819	1,252,674	1,457,228
Ontario.....	352,657	786,965	742,529	1,522,089	1,921,869
Manitoba.....	90,408	126,369	152,620	247,217	304,564
Saskatchewan.....	119,509	282,702	327,001	335,246	379,717
Alberta.....	157,517	272,062	284,577	302,133	373,250
British Columbia.....	189,010	233,449	368,035	386,928	394,252
Canada.....	1,142,318	3,083,448	3,422,301	4,516,962	5,334,502

\* Newfoundland entered into the National Health Program in the fiscal year 1949-50.

Province	1953-54	1954-55	1955-56	1956-57	1957-58
	\$	\$	\$	\$	\$
Newfoundland.....	167,717	169,508	172,806	169,284	214,149
Prince Edward Island.....	53,003	61,224	70,592	73,287	75,141
Nova Scotia.....	214,808	310,089	255,015	318,406	319,144
New Brunswick.....	241,801	278,126	276,304	274,691	273,735
Quebec.....	1,647,254	1,656,243	1,781,353	1,845,509	1,995,014
Ontario.....	1,898,465	2,311,45	1,880,273	2,243,806	2,314,728
Manitoba.....	346,166	349,649	330,941	382,957	352,077
Saskatchewan.....	372,437	429,950	418,466	420,609	417,021
Alberta.....	424,346	482,060	446,877	458,740	485,254
British Columbia.....	503,468	587,642	606,025	667,834	603,679
Canada.....	5,869,465	6,635,947	6,238,652	6,855,123	7,049,942



TABLE 9  
AMOUNTS EXPENDED UNDER THE MENTAL HEALTH GRANT  
1948-58

Province	1948-49	1949-50	1950-51	1951-52	1952-53
	\$	\$	\$	\$	\$
Newfoundland.....	*	54,790	92,876	105,775	110,146
Prince Edward Island.....	34,664	34,021	18,268	31,762	43,197
Nova Scotia.....	47,462	85,270	95,452	135,590	136,309
New Brunswick.....	70,440	34,720	103,846	143,862	157,836
Quebec.....	8,490	699,351	992,963	1,247,977	1,443,849
Ontario.....	55,128	468,030	525,269	1,075,707	1,506,207
Manitoba.....	23,971	62,439	90,588	145,917	236,717
Saskatchewan.....	39,164	187,091	272,142	319,622	339,275
Alberta.....	23,728	131,257	144,115	170,521	215,164
British Columbia.....	136,080	170,732	309,308	347,669	357,339
Canada.....	439,127	1,927,701	2,644,827	3,724,402	4,546,039

\* Newfoundland entered into the National Health Program in the fiscal year 1949-50.

Province	1953-54	1954-55	1955-56	1956-57	1957-58
	\$	\$	\$	\$	\$
Newfoundland.....	135,349	154,148	157,832	169,284	189,255
Prince Edward Island.....	51,048	58,897	66,836	71,413	74,382
Nova Scotia.....	158,181	224,496	234,006	298,021	300,934
New Brunswick.....	217,124	278,126	276,304	274,691	273,735
Quebec.....	1,619,291	1,618,148	1,717,504	1,815,931	1,939,038
Ontario.....	1,571,373	2,041,577	1,365,669	1,919,668	1,956,131
Manitoba.....	289,285	299,970	312,851	364,093	345,475
Saskatchewan.....	338,890	396,491	400,298	398,471	401,824
Alberta.....	342,867	389,335	418,764	432,156	462,931
British Columbia.....	469,733	522,359	499,928	598,600	582,358
Canada.....	5,193,141	6,013,547	5,449,992	6,342,328	6,526,063

## NUTRITION DIVISION

### ***Introduction***

The functions of the Nutrition Division are to determine the extent of nutrition problems in Canada, to encourage and support action to overcome these problems, and to contribute toward the maintenance and improvement of the health of the population by encouraging sound nutrition practices. Consultation and information services, provided chiefly through provincial health departments, and an active research program, which includes field surveys and chemical laboratory analyses, are among the means employed to fulfil these functions.

### ***Research***

Several studies were carried out among Hungarian immigrants for the purpose of determining their nutritional condition on arrival or after a short adaptation period. These studies have provided a basis for educational efforts to correct dietary errors and thus to help prevent subsequent health breakdown. The studies included the following groups; 198 on landing in Quebec; 101 on landing in Halifax; 189 at a camp in British Columbia; and 186 forestry students and their families. For the last 2 groups the collection of sociological data was included.

A study of 181 men and women, 60 years of age and over, in a Saskatchewan city, included dietary records and the analyses of urine samples for specific nutrients. This served as a pilot study for a much more extensive study of the age group, a study which will eventually include all 10 provinces and will require several years for completion. Sampling and preparatory work for the first phase of this broad project has been completed and field work will start in May 1958.

### ***Laboratory Service***

There is continuing growth of the service to physicians and hospitals whereby analyses of certain nutrient factors in blood and urine are performed free of charge. The Hungarian studies also added considerably to the volume of laboratory work. Another project of interest was the analysis of 202 Eskimo blood samples for cholesterol, ascorbic acid and protein fractions. The Eskimos included in this study showed average levels for cholesterol, ascorbic acid and total protein but the last nutrient was below the average level for globulin content. Correlations with other data on the same people are being worked out.

Over 12,000 individual tests were carried out during the year. (See attached table.)

### ***Experimental Kitchen***

The development and testing of quantity recipes for use in non-profit institutions was continued.

### ***Consultation Services***

#### *Within National Health and Welfare:*

Civil Defence—Assistance was provided for a Welfare Emergency Feeding Course at Canadian Civil Defence College, Arnprior.

Civil Service Health—Civil servants with possible nutritional problems were referred for advice. Each received a clinical examination and dietary advice. Laboratory analyses of blood and urine samples were performed.

Other—Collaboration continued with other divisions in connection with nutrition information appearing in pamphlets, radio scripts and other publications.

#### *With Other Government Departments and Outside Agencies:*

Indian Affairs, Citizenship and Immigration—Work continued on the development and pricing of a ration list for use as a guide in estimating food grants to Indian residential schools.

Northern Affairs—A ration list was developed for a new residential school in Yellowknife, Northwest Territories. The short period during which supplies could be shipped in was an important consideration.

Transport—An examination for use in the certification of ships' cooks was set up.

The chief of the Division devoted some time to interdepartmental committees dealing with health, food and agriculture. In November 1957 he was a member of the Canadian delegation to the meetings of the Food and Agriculture Organization in Rome.

#### **Education and Information**

At the request of the Manitoba Health Department, assistance was given with a 10-day course for cooks in small institutions.

Follow-up investigations have indicated that these courses provide valuable training which is put to good use. A shortage of staff made it impossible for the Nutrition Division to provide similar assistance to other provinces that requested it.

A publication describing the details of food service for 50 persons, for use in small institutions, is being prepared at the request of provincial nutritionists. A monthly bulletin is sent to cooks in Indian residential schools.

An issue of the *Canadian Bulletin on Nutrition*, carrying the full report of the Canadian Weight Height Study (1953) was prepared.

The monthly publication, *Canadian Nutrition Notes*, continued to be sent, on request, to a mailing list of 6,000 English and 1,850 French. Most of the recipients are professional people.

Bulletins and pamphlets of established usefulness were reprinted. *Nutrition Cards for Nurses* appeared in a new form.

*Canada's Food Rules* was prepared and produced in Hungarian for use by the Department of Citizenship and Immigration. A short explanatory paragraph on vitamin D was prepared in German, Italian, Dutch and Hungarian for distribution to immigrant families. A booklet on simple food preparation was adapted and translated for Hungarians but has not been produced.

A limited number of a new booklet, *Food Guide for the Older Person* was printed. An evaluation study designed to determine the usefulness of this particular publication is under way.

A poster on vegetables, popular some years ago, was reprinted. Work is progressing on 2 new posters.

#### **Advisory Committee**

The Canadian Council on Nutrition met in Ottawa in October. A committee was set up to re-examine the Canadian dietary standard. Other items considered were: nutrition training of medical and dental students; training of

nutritionists; standards for protein additions to foods under the Food and Drug Regulations; Canadian food supplies and the International Congress of Nutrition in Paris.

The Dominion Provincial Nutrition Committee met immediately before the Council. As usual, it was concerned with maintaining the extensive support given to provincial nutritionists by federal materials and information.

TABLE 10  
NUTRITION LABORATORY ANALYSES 1957-58  
SERA

Origin	Total Specimens	Vitamin A	Carotene	Ascorbic	Protein	Total Protein Albumin Globulin Ratio	Cholesterol	Hemoglobin	Cell Size
Eskimos.....	202	202	202	202	198	139	80		
Hungarians (Quebec).....	198	198	198	198	198				
Hungarians (Halifax).....	101	101	101	101	101			173	
Hungarians (Abbotsford).....	189	173	173	159	172			178	
Hungarians (Sopron, Vancouver).....	186	179	179	154	179				
Old Age Project (Saskatchewan).....									
Lab. Services to Physicians.....	281	281	279	273	271			5	2
Civil Service Referrals.....	5	5	5	5	1			642	
New Brunswick (Survey).....	728	644	644	639	643				
Totals.....	1,890	1,783	1,781	1,731	1,565	139	80	998	2

## URINES

Origin	Total Specimens	Thiamine	Riboflavin	Niacin	Other Tests
Eskimos.....	97	97	97	97	
Hungarians (Quebec).....	167	167	167	167	
Hungarians (Halifax).....	175	175	175	175	
Hungarians (Abbotsford).....	587	587	587	587	
Hungarians (Sopron, Vancouver).....	273	273	273	273	
Old Age Project (Saskatchewan).....	3	3	3	3	
Lab. Services To Physicians.....	3	3	3	3	
Civil Service Referrals.....	70	70	70	70	3
New Brunswick (Survey).....					
Totals.....	1,372	1,372	1,372	1,372	3

Total Specimens 3,262  
Total Tests 12,198



## ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS

### MEDICAL REHABILITATION AND DISABILITY ADVISORY SERVICE

The Medical Rehabilitation and Disability Advisory Service continued to operate during the year 1957-58 under the supervision of the Principal Medical Officer for environmental health and special projects.

Early in the year, the two vacancies on the staff were filled by the appointment of a Medical Consultant and of a Technical Consultant.

Advisory and consultative services were increased in both the medical restorative aspects of the overall rehabilitation program and in the medical social evaluation of disability related to the Disabled Persons Allowances Program.

#### *Medical Rehabilitation*

Consultations were provided, as was the case during previous years, in relation to projects submitted by the provinces under the National Health Grants Program.

It was encouraging to observe that utilization by the provinces of money allocated under the Medical Rehabilitation Grant has increased substantially from year to year since the establishment of the grant in 1953. Indeed, proposed planning has been increasing from 15.8 per cent of the money available in 1953-54 to 54.7 per cent for the fiscal year 1956-57. In 1957-58, this proportion has reached a new high of 75.6 per cent. Again this year, close liaison has been maintained with other departments of government concerned with medical restoration or general rehabilitation.

Advisory discussions were held with officials of provincial departments of health on their respective local medical rehabilitation programs and projects on the occasion of visits undertaken by one or the other of the consultants, as well as during the annual study of continuing submissions of requests for assistance under the National Health Grants Program.

#### *Disability*

Concerning the federal-provincial program of allowances under the Disabled Persons Act, the service has worked in a consultative capacity for the Director of Old Age Assistance, Blind Persons and Disabled Persons Allowances Division in the Welfare Branch of the department. In relation to the local operation of this same program in the provinces, the service has provided guidance on the matter of medical evaluation of permanent and total disability in accordance with the definition found in the Disabled Persons Act and Regulations. This orientation and supervision have been carried out through continued contact and correspondence with the federal medical representatives on the provincial medical review boards.

Certain modifications to the definition of permanent and total disability in the Disabled Persons Act were passed in May 1957 and called for various changes in the interpretation already established by the Disabled Persons Regulations. For these reasons, a second meeting of all federal and provincial members of medical review boards and of all provincial administrators of the Disability Allowances Program was convened in Ottawa on June 24 and 25, 1957 for the purpose of evaluating the past operations of the program, and to discuss changes in procedures.

Following this meeting, a first revision of the *Disability Evaluation Manual* was prepared by the service and distributed to all people concerned with the disabled persons programs in the provinces. It was interesting to observe that many reprints of Chapter IV of the manual dealing with social factors in disability evaluation have been ordered by provincial welfare workers in that field.

As during previous years, correlation between both areas of functions was one of the service's main objectives during the year 1957-58. Emphasis was maintained on the desirability of multiplication and expansion of medical rehabilitation facilities throughout the country, while the adoption of uniform procedures for the evaluation of disability among individuals not amenable to rehabilitation, because of a total and permanent disability, moved towards fuller realization during the last fiscal year.

### OCCUPATIONAL HEALTH DIVISION

The prime objective of this Division is the promotion of good health practices among industrial and other occupational groups in Canada. It functions in an advisory and consultant capacity on occupational health matters. On request, both advice and assistance are provided to other federal government departments, Crown companies, the armed forces, commercial and industrial organizations and other interested groups and individuals.

A number of chapters of the Final Report to the International Joint Commission on the Detroit River Air Pollution Reference was prepared. The Report deals extensively with various aspects of the Greater Windsor-Detroit study, the vessel smoke problem on the Detroit River and recommendations concerning remedial measures and control and the effects of pollution on health, vegetation, visibility and property. The Report is being prepared jointly by the air pollution consultant of this Division, who is the Canadian Chairman, and the United States Chairman of the Technical Advisory Board on Air Pollution.

Assistance was rendered to the Canadian National Railways in the planning and conduct of an investigation on the composition of exhaust fumes from diesel locomotives. Field sampling tests were carried out under normal conditions in the St. Clair railway tunnel and concentrations of various gases, smoke and particulate matter were determined on a 24-hour basis. The results have been used to determine the ventilation requirements of the tunnel when the present electrical system has been replaced by diesel operation.

Advice was given the Board of Transport Commissioners in drafting revised regulations for control of air pollution from railway operations; to provincial and municipal government departments in problems concerning the emission of toxic gases and objectionable dusts, the control of waste gas from diesel equipment operated underground in mines, and in the drafting or revision of regulations for control of smoke and air pollution.

Field trips were made at the request of provincial health departments to assess pollution problems and to recommend control measures. A number of provinces and municipalities have been given assistance in planning air pollution surveys, in the application of instrumentation and analytical methods, and in the assessment of data gathered in such studies. Work on the standardization of techniques for atmospheric sampling and analysis and of specifications for control of odours and gases was continued.

A symposium on air pollution for the June 1957, Annual Meeting of the Chemical Institute of Canada at which scientists from both Canada and the United States participated was organized.

Health education is a major function of the Division. To this end the Division provided information on occupational health topics to medical, nursing, research and other interested groups in Canada.

Publication of the Division's two periodicals, *Occupational Health Review* and *Occupational Health Bulletin* was continued, in co-operation with Information Services Division.

During the fiscal year 11 new pamphlets were issued. These pamphlets ranged in interest from holiday hazards to x-ray protection, solvents and fatigue.

In the summer of 1957, the Occupational Health Division moved to larger quarters close to Tunney's Pasture, the site of the proposed new building for the Division. This temporary move was made necessary by the increased demand for service as an aspect of the greater interest being taken in occupational health all across Canada.

### **Laboratory Services**

Biological studies have been conducted in the fundamental mode of action of chlorinated hydrocarbons. Substances of this class are widely used commercially as cleaning fluids, solvents, fire extinguisher fluids, insecticides and refrigerants. Other studies have contributed to our understanding of the role played by certain enzymes of the esterase group in mediating the toxic action of the commercially important insecticides parathion, paraoxon and TEPP. Studies have also been completed on the metabolic fate of polychlorethylenes used as solvents in industry. The biotransformations of other important solvents have also been examined. The results have been published in papers and communicated to scientific societies.

Work on the solubility of smog gases relating to the irritant and toxic properties of smogs is in progress. Here the possibility exists that mixtures of pollutants may elicit a synergistic or more-than-additive response in the organism. The complexity of the problem has necessitated the design and construction of a unique dynamic gassing chamber. Physiological criteria include assessments of cardiopulmonary function and metabolic transformations of certain carcinogenic substances.

Certain aspects of the general problem of industrial fatigue are being considered. Equipment has been designed and tested which permits the induction of reproducible fatigue states by two different methods.

Assistance in conducting field studies was given to the Province of Manitoba to determine the potential hazards associated with the use of chlorinated hydrocarbons in industry.

Air pollution field studies were made in Yellowknife, N.W.T., St. John, N.B., Ottawa, Ont., etc. Assistance was given to Metropolitan Toronto and the National Research Council in the calibration of equipment and instruments.

Samples of water and vegetation were collected at Yellowknife, N.W.T., in connection with a continuing survey of arsenic hazards and were analyzed in the laboratory. Other chemical analysis included samples of urine and air from Newfoundland which were tested for fluoride. Air samples from the Royal Canadian Mounted Police practice range were tested for lead. Ottawa air samples were analyzed to determine the calcium sulphate content. Miscellaneous

analyses included solvent samples, marking crayons from the Workmen's Compensation Board, dust, air from a well in Fort Simpson and urine from a suspected porphyric.

Calibration and dust size controls of a new instrument used in x-ray sample preparation have been made with the help of the electron microscope. The electron microscope has been improved by the addition of new mechanical parts and a great deal of work has been done on the improvement of related tools used in electron microscopy. The approach for taking colour pictures in electron diffraction has been made and this work is still progressing.

### **Radiation Services**

During the year there was a great deal of public interest in the effects of radiation, the main concern being with the effects on health of radioactive fallout and the medical uses of x-rays. Throughout the world considerable efforts are being made to assess the effects of man's exposure to radiation, and for the most part the results of this work are being forwarded to the United Nations Scientific Committee on the Effects of Atomic Radiation. Canada is one of the 15 members of this Committee, and has contributed information on several aspects of radiation. The report of the Committee will be submitted to the General Assembly of the United Nations in the latter half of 1953. It is expected to be one of the most comprehensive collections of current knowledge of the effects of radiation.

The Radiochemical Laboratory of Radiation Services was completed in 1957. In this laboratory the levels of Strontium 90 in Canadian food are analysed routinely, as a guide to the possible content of this isotope in the human body. These levels are checked against measurements made on human autopsy specimens, when these are available. Measurements made to date indicate that the radiation resulting from present levels of Strontium 90 in Canadians is a small fraction of that received from natural sources. Whether such small doses can produce disease is still unknown.

One of the disadvantages of the radiochemical method is that samples of the material of interest must be submitted to destructive procedures; this is obviously a draw-back when one is interested in measuring the radioactivity of living subjects. For this purpose a device is required that is sufficiently sensitive to detect the radiation emitted from the human body, and to distinguish it from radiation coming from elsewhere. Such an instrument is called a total body monitor; plans were made to build such a unit to complement the work of the Radiochemical Laboratory.

A number of countries have shown that the medical uses of x-rays can contribute a dose of radiation approximately equal to that received from natural sources; in those countries medical x-rays constitute the largest man-made source of exposure. The state of affairs in Canada is not yet known, but a co-operative study with the Research Division and the National Research Council has been started.

During the year Radiation Services also continued to provide technical advice on the health and safety aspects of the uses of radioisotopes and x-rays. Surveys were made at various places where radiation sources were used, and the film monitoring service was supplied to over 6,000 radiation workers. A number of pamphlets on various aspects of radiation protection were supplied to inter-



ested persons; lectures and papers were given at technical meetings, and members of Radiation Services served on a number of national and international committees concerned with radiation protection.

### **PUBLIC HEALTH ENGINEERING DIVISION**

During the past fiscal year the activities of the Public Health Engineering Division continued to reflect the increasing interest and attention given by government departments to environmental health problems. In addition to the obligations required in the administration and performance of duties under certain statutory acts and regulations, engineering assistance provided to other federal departments included the design, preparation of plans and specifications for water and sewage treatment on various federal projects, pollution and industrial waste studies, and other matters related to environmental sanitation. The St. Croix River pollution study was completed and the findings which covered a 2-year study formed a significant part of the reference report recently submitted to the International Joint Commission.

Responsibilities assigned to the Division by statute for those phases of environment having a bearing on the health of travellers and operating personnel of railway, vessels and aircraft remain the same as other years. Some consideration has been given to the need of broadening the area of responsibility of this Division in the field of railway sanitation in order to promote improved working conditions for railway employees in certain areas of work to which limited attention has been possible in the past.

In recent years some concern has been expressed over the quality of milk served aboard common carriers. In an attempt to make an assessment of this problem an investigation was initiated which included the collection of samples and the interpretation of the bacteriological data, compilation of operating conditions aboard railway diners and the actual recording of temperature conditions under which milk is held in the movement of these diners from point to point across Canada. Results obtained to date, indicate areas where improvements are necessary and the need for careful surveillance in handling of milk aboard common carriers.

### **Special Projects**

The activities of the Division have continued to expand due to the many requests for consultation and through engineering services provided to other federal departments of the government on problems of environmental health. Special projects carried out during the year include:

- (a) the emergency restoration and study of oil pollution in the main drilled well water supply at the Royal Canadian Air Force Station, Chatham, N.B.;
- (b) the problems of water supply and sewage disposal for the proposed site of the Halifax International Airport. The type of sewage treatment to be provided and the location of the sewer outfall have special significance owing to the restricted sources of water supply available to local inhabitants;
- (c) the study of ground water flow at CARDE, Valcartier, Que. The object of the survey was to ascertain the direction of underground flow of laboratory wastes discharged to a lagoon located some 1,800 feet from the wells of Canadian Arsenal from which the latter obtain their water supply;



- (d) the examination and study of conditions at Lac St. Denis with regard to the nuisances and the potential health hazards caused by the discharge of treated sewage effluent into the lake which is also the source of domestic water for the Royal Canadian Air Force;
- (e) a survey of the various sewage disposal systems presently serving the Ordinance Depot No. 34, Department of National Defence at Bouchard, Que., for the purpose of ascertaining the extent of pollution contributed to the Riviere-aux-Chiens, and to make an assessment of what would be required in a major revision of the present sewerage system;
- (f) the examination of water supplies and sewage disposal systems operated by the Department of Transport and located in the far north at Wrigley, Fort Simpson, Cambridge Bay, Beaton River, Smith River, Watson Lake and Teslin;
- (g) a survey and report on the cause of contamination of the water supply at the Royal Canadian Air Force Station at Penhold, Alberta;
- (h) the study and implementation of recommended changes in sludge disposal and the water supply system at the Eldorado Mining and Refinery Company's works at Beaver Lodge, Saskatchewan. The improvements subsequently made have considerably reduced operating costs;
- (i) the design of a water supply and sewage disposal system for the Experimental Farm, Fort Vermillion, B.C., at the request of the Department of Agriculture.

#### **Other Departments—Citizenship and Immigration**

Problems related to water supply and sewage disposal were investigated at a number of Indian residential schools and Indian hospitals. These include such Indian residential schools as St. Paul's, Fort Chipewyan, Goodfish Lake and Desmarais all in the Province of Alberta as well as at Fort Alexander, Manitoba, and at McIntosh, Ontario. In addition to these, major revisions were made to existing sewage and water supply systems which required the attention and supervision by engineers of this Division during the construction period. By reason of the close liaison maintained with the Indian Affairs Branch in the development of water and sewage services, especially during the initial planning stages, the opportunities provided for technical assistance on a co-operative basis have been most gratifying.

#### **Northern Affairs and National Resources**

Assistance was given to the Department of Northern Affairs and National Resources in water supply surveys required in the Northwest Territories at Fort Smith and Hay River, and at Whitehorse, Y.T. An investigation was made of the infectious hepatitis outbreak at Yellowknife, N.W.T., which included an engineering study of the discharge of sewage effluent into Niven Lake in relation to its effect on the quality of water in Yellowknife Bay and in the vicinity of the town's water supply intake.

As in other years close co-operation was maintained with the National Parks Branch on matters of mutual concern. Sanitary surveys were carried out at Banff, Jasper and Waterton Parks and advice given with respect to sewage disposal, water supply, restaurant sanitation and work camps. The milk supply at Jasper was thoroughly investigated with the result that major revisions have since been made in regard to operational procedures including purchase of new equipment by the dairies concerned. Engineering assistance was provided in the

development of preliminary plans and cost estimates for a public water and sewer system including sewage treatment for Riding Mountain National Park, Manitoba.

### **Shellfish Control**

Control of the shellfish industry continued to form an important phase of the Division's responsibilities in those provinces in which shellfish are produced commercially for export.

The control program as administered by the Division is divided into two broad phases, the first related to sanitation, the second to toxicity. Under the sanitation program, production, harvesting and marketing all require special attention. The control of toxicity is not directly related to sanitation and is attributed to the poison found in certain planktonic organisms. Toxicity control of shellfish growing areas is a matter of grave concern to regulatory authorities and in this regard reference is made to the occurrence in Canada of two epidemics of shellfish poisoning during the past year. These two epidemics, one on the East Coast and the other on the West Coast, involved some 80 cases but no fatalities and does emphasize the importance of maintaining strict surveillance of all areas with respect to toxicity levels and the application of control measures when the toxicity exceeds the recommended limits of tolerance. During the year action was taken when necessary in accordance with the toxicity findings. Closure proceedings are taken as a co-operative control measure with the Department of Fisheries.

### **Provincial Co-operation**

As in other years the Division maintained close touch with all provincial agencies on problems relating to environmental sanitation.

At the request of the Department of Health and Welfare for the Province of Prince Edward Island, the Division provided consultation and direct engineering services on 4 industrial waste problems associated with the food canning industry, and in the development of several municipal water and sewage systems and a number of private and industrial sewage treatment and disposal projects.

At the request of the Ministry of Health for the Province of Quebec, an algae problem resulting from the discharge of sewage effluent from a Royal Canadian Air Force station into Lac St. Denis was investigated. This condition has been a source of concern for several years. Remedial measures are now being taken to improve the sewage treatment and to direct the effluent away from this body of water. Several other studies involving provincial interests were carried out in that province at the request of consulting engineers who are in the process of designing sewage treatment works for federal interests.

### **International Joint Commission**

Continued interest by active membership on the various advisory boards to the International Joint Commission on Control of Water and Air Pollution was maintained.

During the year a meeting of the regulatory authorities and vessel owners and operators was convened under the Commission's auspices to discuss the voluntary action taken to date and what future remedial actions should be taken to control pollution contributed by vessels.

Field studies were continued in the connecting waters of the Great Lakes along similar lines to those of previous years. These included river sampling, industrial waste surveys and chemical and bacteriological analyses.

### ***Public Works Health Act and Regulations***

The construction program of the federal government and its related agencies in recent years has increased tremendously the Division's responsibilities with respect to matters of accommodation, water supply, sewage disposal and sanitation of construction camps on federal projects in the administration of the Public Works Health Act and Regulations. During the year, under these regulations, 25 major projects were visited, including 13 radar sites on the Distant Early Warning Line. Other construction projects examined under the Act included various Department of Transport works, large housing developments under Central Mortgage and Housing Corporation, highway construction camps in national parks and several large Defence Construction (1951) Limited works such as Camp Gagetown.

During these examinations problems of water supply and sewage disposal were of particular interest especially those in the far north where permanent installations have afforded an opportunity to make certain evaluations on the adequacy of treatment and performance under extreme climatic conditions. The conditions found at these projects have been reasonably acceptable and there have been no reported outbreaks of disease attributed to faulty water supply, sewage disposal and general sanitation.

### ***Laboratory Services***

During the year the establishment of laboratory facilities at the Division's headquarters offices now located at 45 Spencer St., Ottawa, has effected a marked increase in the work as well as expanding available services within the Division and to others. The analyses made and requisites for data, as related to matters of water supply, stream pollution and quality appraisals for water and sewage treatment purposes, is strongly indicative of the need for this expansion of laboratory services.

### ***Education Services***

Several technical papers were presented before professional gatherings or conferences by members of the Division. Lectures on sanitary control in the operation of fish plants and the harvesting of shellfish were presented to fisheries inspection officers at their district conferences.

### ***Field Work Summary***

In all, 966 sanitary surveys of water supplies, ice supplies (natural and artificial) and shellfish growing areas were conducted. A total of 6,352 water samples, 191 ice samples, 41 sewage effluent samples and 481 milk samples were taken for analysis. Some 735 examinations of railway property including stations, restaurants, dining cars, bunkhouses, mobile work camps, coachyards and oil wastes disposal were made.

A total of 198 examinations were made of sewage treatment plants to check their operation. During the year 242 vessels' water systems were examined for compliance with statutory regulations, including 13 new vessels under construction for which plans were submitted to this Division for review.

Reference is made to two investigations by two engineers during the year concerning the outbreak of dysenteric diseases; (1) a salmonella infection aboard a vessel carrying Canadian army personnel; (2) the occurrence of several cases of typhoid among the Blood Reserve Indians at Cardston, Alberta.

## HEALTH GRANTS ADMINISTRATION

With the end of the 1957-58 fiscal year the National Health Grants Program completed its first decade of operation. The year was one of steady advance in the development of public health services, research and hospital construction in all provinces and the territories, with the financial stimulation provided by federal grants-in-aid.

### *Expenditures*

Federal expenditures under the program totalled \$34,606,069 during this fiscal year. Payments to the provinces for the 10-year period now total more than \$259,136,000. By the way of comparison, expenditures during the first year's operation of the program in 1948-49 were slightly more than \$7,000,000 and in the fifth year \$27,000,000.

In 8 out of the 12 categories of grants, the percentage of the grant utilized by the provinces out of the total amount available increased over the previous year. In one grant the percentage of utilization was the same and in another the decrease was a fraction of one per cent. In two grants the percentage of utilization was lower than in 1956-57. The sharpest rise in utilization was in the Medical Rehabilitation Grant inaugurated in 1953-54—an indication of the steady development of provincial planning in this important aspect of public health.

### *Changes in the Grants*

During the year several preliminary studies were begun to assess the possible influence on the grants of the new Hospital Insurance and Diagnostic Services Act, especially with a view to eliminating any duplication of assistance as between the 2 programs. These studies were continuing as the fiscal year ended.

One major change occurred during the year when the government announced that, effective January 1, 1958, a more generous scale of assistance would be put into effect under the Hospital Construction Grant.

This provided for an increase from \$1,000 to \$2,000 per bed or bed equivalent for beds in acute care hospitals; an increase from \$1,500 to \$2,000 per bed for beds in chronic care hospitals (including mental hospitals and tuberculosis sanatoria); and an increase from \$500 to \$750 per bed for beds in nurses' residences. For the first time under the Hospital Construction Grant, assistance at the rate of \$750 per bed was made available for beds in interns' residences and provision was also made for federal aid with the cost of major renovations in existing hospital buildings. As the conditions of the Hospital Construction Grant provide that the federal grant must be at least matched by the province, this change required a re-assessment in provincial planning, the re-calculation of grants to hospitals still under construction and the working out of new administrative procedures. The result was a temporary slackening in the submission of claims for payment and a temporary reduction, as compared with 1956-57, in the



amount shown as spent on hospital construction. However, it is expected that the next fiscal year will show a marked increase in expenditures as applications are received and payments made at the higher rates.

### ***Surveys and Studies***

Statistical and other information accumulated by the Health Grants Administration was made available during the year to other divisions of this department, including the developing hospital insurance program, and to other departments of government for use in studies of various aspects of health services in Canada.

As in past years consultants in the special divisions of the department continued to provide expert assistance in the assessment of health grants projects. These activities and information on the impact of the grants program on their special fields of interest are described in other sections of this report.

### ***Public Health Progress***

A look backward over the 10-year record of the National Health Grants Program indicates that during this period it has had an influence, at one time or another, on every major health development in Canada and most of the minor ones. Availability and flexibility have become two of the program's major strengths so that the usual time lag between the discovery of new knowledge for health care and its practical application in the community has been appreciably reduced. Thus, health objectives of value to the nation as a whole are achieved without intrusion on the constitutional responsibilities of the provinces. The program has also stimulated action in certain areas of health care which have been slow in receiving the attention they deserve. Another major strength of the grants program is the spirit of co-operation which has developed to a high degree between the provinces and the Dominion in the various fields of health. The consequent cross-fertilization of ideas, aided by frequent meetings between federal and provincial technical officers, has resulted in the initiation of many new health projects, the adoption of high standards of program content and administrative procedure and, in general, the development of a co-ordinated, nation-wide approach to the major health problems of the day. Studies of these and other factors inherent in a system of grants-in-aid were under way at the close of the fiscal year.

## **HEALTH INSURANCE**

During the year under review, substantial progress was made both at the federal and provincial levels of government, in the formation of plans in connection with the hospital insurance programs.

In December 1957, a federal-provincial technical conference on hospital insurance was held in Ottawa. The meetings were attended by representatives of provincial governments, as well as federal departments having an interest in the hospital insurance programs. Interpretative material which had been prepared, was discussed and draft regulations were examined. At the request of the provinces, it was agreed to convene a further conference at a later date to discuss reciprocal arrangements between the provinces.

The Hospital Insurance Regulations were published early in 1958. On March 3, 1958, the Province of Ontario, which had enacted the requisite



provincial legislation, signed an agreement with the federal government, with the stated intention of commencing the Ontario Hospital Insurance Program on January 1, 1959.

Throughout the year, there was continuing consultation with the provinces both in Ottawa and in provincial capitals. Departmental officers visited the provinces to study individual problems, and provincial officials came to Ottawa to discuss legislation and matters pertaining to a number of federal departments. Federal departments, including Veterans Affairs, Justice, National Defence, Trade and Commerce (Dominion Bureau of Statistics), Finance, Immigration and Citizenship, and Northern Affairs and National Resources, as well as a number of other divisions of the Department of National Health and Welfare, have direct interests in the hospital insurance programs. These include such matters as the use of federal hospitals by the provinces; the provision of insured services to Indians and Eskimos; dependents of armed services and Royal Canadian Mounted Police personnel; inmates of federal penitentiaries; and other matters of mutual concern between the federal departments and the provinces.

Departmental officials, in collaboration with representatives of the Department of Finance, including the Comptroller of the Treasury, and the Dominion Bureau of Statistics, completed draft forms and reports which will be required for administrative and statistical purposes. These forms were to be presented to the provinces for discussion at the second technical conference on hospital insurance which was to be convened shortly after the year under review.

By the end of the year, 5 provinces had indicated that it was their intention to have programs in operation on July 1, 1958; 3 provinces proposed to commence on January 1, 1959; and 1 province was planning to commence at a later date during 1959.

## RESEARCH DEVELOPMENT AND INTERNATIONAL HEALTH SECTION

### *Research Development*

The program of scientific research for the fiscal year 1957-58 involved a total of \$3,044,752.18. Of this amount, research performed intramurally represented \$946,568, apportioned between that in departmental laboratories and divisions which totalled \$717,200 and socio-economic studies in health and welfare amounting to \$229,368. Under the National Health Grants Program a total of \$2,098,184.18 was offered in the form of grants-in-aid of medical research. Individual projects accounted for \$1,946,852.58 and a sum of \$99,931.60 was provided to supplement the fundamental research sponsored by the National Cancer Institute of Canada as well as \$51,400 for clinical studies under the sponsorship of the Ontario Cancer Treatment and Research Foundation.

To provide a comprehensive picture of the financial aspects of research relating to health and welfare performed within the department, laboratory and divisional allocation for investigative purposes are presented in Table 11. These include the Research and Statistics Division whose activities are concentrated in the socio-economic field. Detailed reference to the work performed in this and other divisions concerned is made in respective sections of the report.

Under the National Health Grants Program, grants-in-aid of medical research were made, with the sponsorship of appropriate provincial departments, to

research workers at universities, hospitals and other research performing institutions. From the original amount of \$100,000 provided in 1948 for public health research, the total for medical research has now risen to almost \$2,100,000. Allocations by grant and province are presented in Table 12. The funds for the National Cancer Institute and the Ontario Cancer Treatment and Research Foundation are matched by an equal contribution by the provinces concerned in support of the programs of fundamental and clinical research sponsored by those agencies.

An analysis of fields of medicine or scientific disciplines involved in the extramural program is presented in Table 13, relating the numbers of projects and the funds allocated to the specific field. Similarly, the disease entities involved in the research studies have been reviewed and are listed in Table 14. In the fields of medicine, it will be appreciated that there is considerable overlapping and more than one discipline may be involved in the conduct of many of the studies. Projects have been categorized according to the scientific discipline which has greatest prominence in the performance of the research. This also applies to those listed under disease entities where several pathological conditions may be involved. There are, of course, a number of studies which cannot be tabulated chiefly for lack of relationship to any specific disease condition.

At the end of the fiscal year the review procedure by the Research Advisory Committee to the Dominion Council of Health and the general organization of the structure of special advisory sub-committees were being re-examined.

### ***International Health***

The International Health Section is responsible for co-ordination of the interests and activities of the department in the international sphere, which in the main, are those arising out of Canadian membership in the specialized agencies, and other United Nations organs and of multilateral technical assistance programs including the United Nations Expanded Program of Technical Assistance and the United Nations Children's Fund. In addition, the Section advises the Colombo Plan Administration on technical assistance requests in the health field received under the Plan.

The Tenth World Health Assembly, governing body of the World Health Organization, was held in Geneva from May 7th to 24th. Dr. P. E. Moore, Director of Indian and Northern Health Services, headed the Canadian delegation, which also included Mr. Max Wershof, Ambassador and Canadian Permanent Delegate to the European Office of the United Nations, Dr. Raymond Lemieux, President of the Canadian Medical Association, Dr. A. Somerville, Deputy Minister of Health of the Province of Alberta and Mr. M. G. Clark of the Department of Finance. The Assembly approved the program of the Organization for 1958 at a budget level of \$13,566,000 (U.S.) to which Canada's assessed contribution is \$425,060. In addition the Organization is responsible for the co-ordination and technical direction of health programs financed through the United Nations Expanded Program of Technical Assistance and the United Nations Children's Fund. Total funds available for health activities from these 3 sources in 1957 amount to \$32,386,000. Major emphasis in the program will be placed on assistance in strengthening the organization of national health administrations in underdeveloped countries, on the training of additional health personnel and on a program of worldwide eradication of malaria which began in 1956.

Apart from its financial participation, one of the main ways in which Canada assists in improving world health is in making available excellent facilities for post-graduate training of doctors and nurses. Approximately 50 internationally sponsored fellows come to Canada each year, either for advanced academic studies or for periods of observation and practical field experience. The Section looks after the programming and placement of these trainees in Canadian universities or health agencies.

TABLE 11  
ALLOCATIONS FOR INTRAMURAL RESEARCH PROGRAM  
1957-58

<i>Division</i>	<i>Allocation</i>
Civil Aviation Medicine .....	\$ 2,500
Dental Health .....	18,000
Epidemiology .....	22,000
Food and Drugs .....	150,000
Laboratory of Hygiene .....	286,500
Nutrition .....	36,300
Occupational Health	
Laboratory Services .....	171,600
Radiation Services .....	30,000
Public Health Engineering .....	300
Research and Statistics .....	229,368
TOTAL .....	<u>\$946,568</u>

TABLE 12  
ALLOCATIONS FOR RESEARCH UNDER THE NATIONAL HEALTH PROGRAM  
By Health Grant and by Province, 1957-58

Province	Crippled Children	Veneral Disease	Mental Health	Tuberculosis Control	Public Health Research	General Public Health	Child and Maternal Health	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Nova Scotia.....			5,854 12		35,777 50		234 50	41,866 12
New Brunswick.....								
Quebec.....		1,575 00	173,398 00	6,300 00	197,840 00	276,997 47	40,960 00	697,070 47
Ontario.....	50,249 60		248,675 45	78,885 23	178,237 59	282,510 53	63,036 70	901,595 10
Manitoba.....			8,047 35		18,114 96	4,190 00	18,646 03	48,998 34
Saskatchewan.....			45,198 58	7,157 44	39,929 01		19,377 81	111,622 84
Alberta.....							19,600 00	19,600 00
British Columbia.....			50,197 25		32,460 30	17,420 00	18,960 00	119,037 55
Northwest Territories.....					7,022 16			7,022 16
Total.....	50,249 60	1,575 00	531,370 75	92,342 67	509,381 52	581,118 00	180,815 04	1,946,852 58

Note:—Assistance to National Cancer Institute: P.E.I. .... \$ 872 50 Quebec..... \$36,209 60  
 Manitoba .... 13,500 00 Saskatchewan..... 7,500 00  
 Total..... \$99,931 60  
 —Assistance to Ontario Cancer Treatment and Research Foundation:..... \$51,400 00

Ontario..... \$41,849 50

TABLE 13  
RESEARCH ACCORDING TO FIELD OF MEDICINE  
National Health Program, 1957-58

Field of Medicine	No. of Projects	Amount	Per cent of Total
Psychology and Psychiatry.....	22	313,883.19	16.1
Cardiology.....	17	237,707.15	12.2
Biochemistry.....	27	171,821.56	8.8
Virology.....	13	124,991.40	6.4
Pharmacology and Therapeutics.....	15	104,904.70	5.4
Neurology.....	9	100,646.03	5.2
Bacteriology.....	16	93,650.30	4.8
Occupational Health.....	6	90,420.00	4.7
Physiology.....	7	86,741.02	4.5
Tubercle Bacillus incl. B.C.G.....	14	74,851.23	3.8
Special Senses.....	6	72,130.13	3.7
Internal Medicine.....	6	64,351.91	3.3
Endocrinology.....	5	61,782.50	3.1
Obstetrics and Gynaecology.....	12	58,709.82	3.0
Haematology.....	8	50,240.44	2.6
Epidemiology and Biostatistics.....	4	38,348.55	2.0
Genetics.....	5	34,336.90	1.8
Paediatrics.....	5	30,046.26	1.6
Dentistry.....	1	25,719.75	1.3
Other—Miscellaneous.....	18	111,568.84	5.7
Total.....	216	\$1,946,852.58	100.0

TABLE 14  
RESEARCH ACCORDING TO DISEASE ENTITY  
National Health Program, 1957-58

Field of Medicine	No. of Projects	Amount	Per cent of Total
Unclassifiable*.....	18	259,498.43	13.3
Psychosis.....	24	257,125.58	13.2
Heart Disease.....	20	255,263.24	13.1
Infectious Diseases.....	22	173,322.67	8.9
Tuberculosis (Respiratory).....	26	167,256.58	8.7
Neonatal Period.....	15	118,427.59	6.0
Nervous System.....	14	102,326.53	5.3
Eye, Ear and Mastoid.....	7	94,250.07	4.9
Accidents.....	3	72,541.44	3.7
Bones and Organs of Movement.....	11	68,458.21	3.5
Other Respiratory.....	7	64,679.00	3.3
Digestive Diseases.....	9	42,735.90	2.2
Arteriosclerosis and Hypertension.....	2	39,993.00	2.0
Pregnancy.....	10	39,148.09	2.0
Anemias.....	4	34,067.00	1.8
Mouth and Teeth.....	2	29,419.75	1.5
Veneral Diseases.....	6	24,235.00	1.2
Neurosis and Psychoneurosis.....	2	22,547.50	1.2
Metabolic Diseases.....	2	20,970.30	1.1
Other—Miscellaneous.....	12	60,586.70	3.1
Total.....	216	\$1,946,852.58	100.0

\* No specific disease involved.



## EPIDEMIOLOGY DIVISION

The traditional field of the Epidemiology Division has been in communicable disease control and many of the year's activities were directed towards that end. Outstanding among the communicable diseases was the country-wide epidemic of Asian influenza, and the Division was active in the arrangements made for the evaluation of a new vaccine against this type of influenza.

It is recognized however that other causes of morbidity and mortality among Canadians are becoming increasingly important. Work in these fields continued throughout the year, including for example studies on lung cancer and accidental home poisonings.

*Poliomyelitis*—A study has been made of age distribution patterns of paralytic poliomyelitis in the pre-vaccination years 1952-54 with post-vaccination years 1955-56. It has been possible to show that since the initiation of the Canadian vaccination program in 1955 the maximum incidence which occurred at that time in the early school ages, has since shifted to the pre-school ages. It is felt that these changes in the patterns of paralytic poliomyelitis are a reflection of the vaccination program.

Incidence figures of paralytic poliomyelitis by age indicate the need for adult vaccination up to age 40.

*Tuberculosis*—Visits were made by the Division medical officers to various sanatoria in Quebec to keep in close touch with conditions in those institutions. Further visits will be made to sanatoria in all the Canadian provinces.

A decline in morbidity has focussed attention on the evaluation of case-finding methods presently in use.

*Venereal Disease*—A report prepared by this Division is distributed to provincial health departments semi-annually, as well as to other interested agencies and represents, at this time, the most complete compilation of such figures available for the 10 provinces as well as for 17 of the larger Canadian cities.

The development and distribution of venereal disease education material was continued throughout the year and general educational materials consisting of pamphlets, reprints, etc., are distributed according to established procedure.

*Influenza*—This Division, as a member of the Canadian Influenza Information Centre, has provided a service for the collection and dissemination of information concerning the occurrence of influenza-like disease in epidemic form in Canada and other countries.

During the recent epidemic a weekly summary on the progress of the disease was published.

A survey undertaken to study the effect of the influenza epidemic on industry and services revealed that no apparent disruption occurred anywhere.

*Reporting of Communicable Diseases*—A new system of collecting "epidemic intelligence" was initiated by the Division. It was felt that as a supplement to the present reporting of specified diseases by individual occurrence, some more regular reporting of epidemic and unusual form of disease should be developed. This "Surveillance Reporting of Epidemic of Unusual Communicable Disease" proved its value during the influenza epidemic.

In association with the Dominion Bureau of Statistics new methods of reporting communicable diseases are under review. This should lead to improvement in the reporting of these diseases.

*Lung Cancer*—An investigation is presently under way in conjunction with the Department of Veterans Affairs and the Research Division, to establish the relationship of residence, occupation and smoking habits, to death from lung cancer and other selected causes. The study involves pension recipients of the Department of Veterans Affairs plus those in receipt of veterans' and widows' allowances. Completed questionnaire forms have now been received from almost 120,000 recipients and the coding of data has been under way for some time.

*Home Accidental Poisoning*—A survey of more than 200 accidental home poisonings in the Ottawa area during 1957 is now almost completed. Most poisonings or potential poisonings occur in young children. Reports from the hospital authorities and paediatricians to the Epidemiology Division were followed up by personal visits to each home involved. Interviewers obtained information about the child, the poison and the environment. This information, when tabulated, will throw more light on the circumstances of such poisonings and will also suggest methods of prevention.

*Atherosclerosis in Eskimo Populations*—During last summer the Indian Health Services carried out an investigation of atherosclerosis in Eskimos, which was planned jointly with the Nutrition Division and the Epidemiology Division.

*Technical Information Section*—This Section of the Division regularly indexes, abstracts and maintains files of medical articles and statistical information obtained from some 150 medical journals and epidemiological and statistical reports which are received from various countries and the World Health Organization.

Over 400 enquiries and 900 pamphlets on subjects of medical interest were replied to and distributed.

In addition to this work, a comprehensive selected list of Canadian public health references of epidemiological significance is currently being prepared. This bibliography covers the years 1950-57 inclusive, and contains over 1,100 references arranged under 82 separate categories.

With this continuing accumulation of reference material, this Section has become increasingly valuable. Efforts are being made to broaden its usefulness and to make its services available to provincial departments and to teaching staffs of medical schools and schools of public health.

## LABORATORY OF HYGIENE

As Canada's national reference laboratory in the field of public health, the Laboratory of Hygiene continues to play a leading role in many health conservation activities. It is housed in three buildings—the main Laboratory of Hygiene building which was occupied during the past year, a modern virus laboratory building occupied in 1954 and an animal breeding building.

The hazards of the work carried out were exemplified during the past year when our Veterinary Officer died as a result of a B virus infection believed to have been acquired from the monkeys used for testing Salk poliomyelitis vaccine.

The Laboratory of Hygiene, like many other scientific organizations, is experiencing serious difficulty in recruiting and retaining first class scientists.

The Virus Laboratory again carried a heavy load of testing for Salk poliomyelitis vaccine. Asian influenza also contributed a large volume of work

in the testing of specimens for identification of the virus as well as the testing of the specific vaccines. The Zoonosis Laboratory began the study of rodent and avian reservoirs of disease of concern to humans in Eastern Canada—with primary interest in the St. Lawrence Seaway areas. Numerous other projects and problems are under continuous study and are dealt with in detail in the reports of each individual section.

### **Virus Laboratories**

The major activity of the Virus Laboratories was again concerned with the safety and potency testing of poliomyelitis vaccines. During the fiscal year the Canadian producers submitted 20 lots of poliomyelitis vaccine, all of which were released for general use. The American producers submitted 7 lots, of which 5 were tested and released for sale in Canada. One lot was withdrawn by the manufacturer and one lot is still on test. Testing procedures were inaugurated for the control of Asian influenza vaccines produced by Canadian and American manufacturers. Thirteen batches of influenza vaccine were submitted during the past year and all were tested and subsequently released for distribution in Canada.

The Asian influenza epidemic in 1957-58 provided an excellent opportunity for assessing the efficiency of the reporting system established several years ago.

As soon as the first information was received early in May 1957, that a new variant of influenza virus type A unrelated to previously isolated influenza strains had been identified in the Far East, a sample of the virus culture was requested. It was immediately distributed to the Canadian manufacturers of influenza vaccines. At the beginning of September, the first reports of influenza in Canada were received and specimens from all provinces arrived shortly afterwards. Serological studies on 400 acute and convalescent phase samples of sera from clinical influenza cases indicated clearly that a high antibody level against previously isolated influenza A viruses provided no protection against the Asian influenza strain.

The diagnostic services for the pneumotropic virus diseases were further extended. Reference virus strains, C.F. antigens and freeze dried specific antisera are now available for distribution to the provincial public health laboratories. A diagnostic service in relation to the enteroviruses, including poliomyelitis, Coxsackie and Echo groups is also available.

A simple and practicable method for the recovery of fibrin-free serum from human plasma has been devised. The serum so obtained is serving satisfactorily where needed for tissue culture media.

The improvement of safety testing procedures for formalized polio vaccines has been a major research project for the past year, and the results of these studies have been published.

The Virus Laboratories prepare and distribute a large number of diagnostic antigens to the various provincial laboratories. These are listed, together with the quantities distributed during the past year in Table 15.

### **Biochemical Research Section**

During the period from April 1, 1957 to March 31, 1958, studies on the nutrition and metabolism of tissue cultures have represented the major activity of the Section. Correlated studies on tissue cell nutrition and metabolism have been carried out to determine the basic nutritional requirements of mammalian

cells and to establish the biochemical pathways by which the essential factors are utilized. An ultimate objective of these investigations is to determine whether biochemical differences exist between normal and malignant cells in tissue culture. The importance of this objective has been strengthened in the past few years by the discovery that nearly, if not all, cell lines in continuous cultivation have become malignant in character. Knowledge of the reasons underlying this apparent change from normal to malignant cells would be a major contribution to our understanding of the malignant process.

To avoid alterations in cell character, the main nutritional studies in this section have been carried out with freshly-explanted tissues, derived from embryonated eggs, and maintained in a state of survival but not rapid propagation. Results obtained by this method are considered to represent the nutritional requirements of normal tissues. For comparative purposes nutrition and metabolism studies have also been made on a variety of cell strains of malignant origin, also cultivated under conditions of survival but not rapid propagation.

*Bacterial Chemistry:* During the past year, three new developments have occurred in the work of the Biochemical Research Section:

1. The expanded facilities of the new Laboratory of Hygiene building have made it possible to undertake postgraduate training for the first time.
2. A staff member was transferred to Toronto to undergo special training and research at the Biochemistry Department of the University of Toronto for a one year period to study the newest techniques used in the investigation of enzyme induction and adaptation in bacteria.
3. A collaborative project has been undertaken with the Department of Apiculture, Ontario Agricultural College, Guelph, to study the possible anti-tumour activity of royal jelly.

### **Bacteriological Laboratories**

The Bacteriological Laboratories serve as the national reference centre for the study and identification of special groups of bacteria and for the preparation and distribution of carefully standardized antigens and antisera. In addition the sanitary bacteriology section is concerned with the bacteriological control of shellfish-producing areas in the Maritimes, with shellfish poison, with the sanitation of restaurants and hospitals, and with other public health responsibilities such as water and milk supplies.

*Enteric Bacteriology*—The National (World Health Organization) Salmonella-Shigella-Escherichia Coli Reference Centre received 1,210 cultures for identification. This figure represents a 9 per cent increase over the previous year. Through collaboration with the provincial public health laboratories, reports covering the distribution of enteropathogenic bacteria were prepared and distributed quarterly to the end of the calendar year 1957. Since January 1958, monthly reports are being compiled for distribution.

*Streptococcus*—There was much increased activity during the year in the serological grouping of hemolytic streptococci and the typing of Group A strains. This increased activity was in large measure due to our collaboration with McGill University in a project to study the distribution of the different serologic types of streptococci in school children in Montreal, part of a larger project to study 'type distribution' on the North American continent.



*The Bacteriophage Typing of Staphylococci*—The large number of reports appearing in the literature attest to the increasing importance today of staphylococcal infections. One of the important phases in the control of these infections is the ability to distinguish one strain of staphylococcus from another, so that the spread of 'epidemic' or particularly virulent strains may be tracked down. Phage typing offers such a means of differentiation and this laboratory serves as the National Reference Centre for the phage typing of staphylococci. Since the start of this national reference service in 1954, the number of cultures received for identification has increased every year. During the past year 3,347 cultures were received, of which 85 per cent of the coagulase-positive strains were successfully typed.

### **Sanitary Bacteriology**

*Manitoba Field Studies*—At the request of the Manitoba Department of Health and Public Welfare, the mobile laboratory carried out a bacteriological investigation during the month of June 1957, of the milk and water supplies and of restaurant sanitation in Flin Flon and The Pas.

A second similar survey was also carried out in the Lake Winnipeg district of Manitoba as well as a preliminary bacteriological survey of Lake Winnipeg.

*Prince Edward Island Studies*—At the request of the Prince Edward Island Department of Health, a bacteriological survey of the eating utensils and of the water and milk supplies in eating establishments in the National Parks District was carried out by the mobile laboratory team in July 1957.

*Miscellaneous Studies and Tests*—The laboratory continued its assistance in the sanitary control of cafeterias operated in government buildings.

*Shellfish Studies*—One of the important phases in the controls of the shellfish industry is the approval of safe areas for the taking of shellfish. Bacteriological surveys of the fishing grounds is a very necessary part of this control. During the year such surveys were carried out by the mobile laboratory team in Conway Narrows and Trout River-Foxlay Bay, Prince Edward Island, and in the Baie de Chaleur.

An outbreak of shellfish poisoning in Charlotte County on the New Brunswick side of the Bay of Fundy in June, involving 32 cases, once again demonstrated the importance of maintaining close scrutiny over these areas for the presence of shellfish poison. The toxicity in the clams and mussels in the area involved in the outbreak rose to very high levels during late June and July and resulted in a much increased sampling program.

### **Clinical Laboratories**

During the year the Clinical Laboratories Section was reorganized to include a Health Grants Division. The responsibilities of the new subsection are:

- (1) To offer consultant services in the consideration of health grant sub-missions pertaining to laboratory work;
- (2) To assist in planning and integrating diagnostic services in various provinces;
- (3) To offer technical aids to improve the quality of work in hospital laboratories, especially in the small hospitals.



*Clinical Chemistry*—The critical examination of methods used for various determinations in clinical chemistry, particularly in blood analyses, has been continued.

The first edition of the Manual of Clinical Chemistry was completed two years ago and published in loose-leaf form. The enthusiastic reception of the Manual has prompted its enlargement to the point where it will include most of the determinations carried out in small and medium sized hospitals.

The estimation of cholesterol in the blood has been studied intensively during the year. This determination has assumed considerable importance in studies of arteriosclerosis.

*Syphilis Serology*—This Section has continued to serve as a national reference laboratory.

The number of blood specimens received in provincial public health laboratories for serological testing has not decreased significantly in spite of the marked drop in the incidence of syphilis.

*Blood Grouping and Typing Sera*—In conjunction with the Biologics Control Laboratories, a survey of blood grouping and typing sera available in Canada was started in January. Studies of potency and specificity are being carried out.

### **Biologics Control Laboratories**

The program followed by this Section is based on the Laboratory of Hygiene's function of controlling drugs listed under Schedule D of the Food and Drugs Act and its role as a national public health laboratory. The greater portion of work is devoted to duties related to the Food and Drugs Act. This involves the inspection of licensed biological manufacturers, the routine control testing of a wide variety of parenteral drugs and research related to the development and improvement of control tests. In addition, the past year has seen considerable activity towards the control of diagnostic materials such as antibiotic discs used for testing the sensitivity of pathogenic bacteria to the different antibiotics, blood typing and grouping sera and various diagnostic antigens and antisera.

*Routine Controls*—The drugs controlled by this Section fall into several categories. First, there are the Schedule D drugs such as vaccines, toxoids, sera, antisera and parenteral antibiotics. A second category of drugs are those listed under Schedule C of the Act, i.e., glandular products such as liver extract injectable, insulin, A.C.T.H., etc.

A third category of drugs are the non-licensed parenterals which are tested for sterility, and where possible, for pyrogens.

A fourth category are the non-parenteral antibiotics—i.e., those for oral, topical or laboratory use, which are tested for purity, identity and labelled potency.

A fifth category of drugs now under active study are the diagnostic reagents used to aid in the treatment or diagnosis of disease in man, which are tested for identity, potency and purity.

*Plant Inspections*—Forty-nine plant inspections were carried out on establishments manufacturing drugs listed under Schedules C and D of the Act. This included the re-inspection of 35 companies in Canada and the United States already possessing Canadian biologics licences, and 14 European companies

—8 of which had previously been granted a Canadian biologics licence—and 6 new applicants. All companies previously licensed were found satisfactory, although a number of minor changes were requested in some instances. Four of the 6 new applicants were refused a Canadian biologics licence. In addition, at the request of the Director of the Food and Drug Directorate, inspections were made of 18 pharmaceutical manufacturing establishments in France who have shipped non-licensable drugs (parenteral, oral, etc.) to Canada. The majority of the companies were found to have excellent standards. In a few, however, the manufacturing standards were questionable.

*Collaboration—World Health Organization and Other Countries*—The Biologics Control Laboratories participated in World Health Organization collaborative studies for international standards for Penicillin V and Streptomycin. Several samples of tetanus toxoid were tested for government laboratories in Iran.

A member of the Pakistan Biologics Control Laboratories, under the Colombo Plan, has been receiving staff training in biologics control test procedures.

### **Zoonosis Laboratories**

The rodent survey initiated in Eastern Canada in December 1956, for the detection of *Pasteurella* infection, leptospirosis, rat bite fever and other diseases was continued throughout the past 12-month period.

It has not been possible to develop the planned program as anticipated largely because of staff shortages and limited laboratory facilities. However, there is every hope that these difficulties will be solved and the study of rodent and avian reservoirs of disease may be carried forward.

### **Parasitology**

The Institute of Parasitology, under the direction of Dr. T. W. M. Cameron of McGill University, serves as the Parasitology Section of the Laboratory of Hygiene and as a centre for:

- The diagnosis of parasitic infections;
- The identification of parasites of man;
- The distribution of hydatid antigen for the Casoni test;
- The carrying out of complement fixation tests for hydatid;
- As a source of trichina antigen and a centre for the carrying out of the precipitation test for trichinosis;
- The distribution of evaluation specimens to public health and service laboratories in order to test the competence of technicians;
- Refresher courses for hospital technicians. One such course was given during the past year.

In addition, the Institute has maintained research into better methods of diagnosis and prevention. Considerable investigation has been made on the pathology of human parasitic infections and of infections of animals liable to be transmitted to man.

All services have increased considerably during the year and it is obvious that there is a growing awareness among the medical profession of the parasitic problems to be encountered in human medicine and public health.

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15. Leucocidal effect of staphylococcal delta-lysin. Jackson, A.W., and Little, R.M., *Can. J. Microbiol.*, 3: 101-102, 1957.
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17. Saturated synthetic lecithins in VDRL and Kolmer antigens for the serodiagnosis of syphilis. Tonks, D.B., and Allen, R.H., *Br. J. Ven. Dis.*, 33: 249-257, 1957.
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TABLE 15

DIAGNOSTIC REAGENTS DISTRIBUTED FROM THE VIRUS  
LABORATORIES TO PROVINCIAL LABORATORIES  
FROM APRIL 1, 1957-MARCH 31, 1958

<i>Antigens</i>	<i>Ampoules</i>	<i>For tests approx.</i>
Rocky Mt. Spotted Fever .....	8	56
Rickettsial Pox .....	20	140
Q Fever .....	20	70
E. Typhus .....	21	147
M. Typhus .....	15	105
Psittacosis .....	112	784
Vaccinia .....	11	77
Herpes Simplex .....	70	245
Mumps .....	490	1,715
Influenza A .....	229	805
Influenza B .....	215	752
Adenoviruses .....	17	119
L.C.M. ....	43	301
Eastern Equine Encephalomyelitis .....	36	252
Western Equine Encephalomyelitis .....	39	273
St. Louis Encephalitis .....	30	210
Normal C. A. Membrane .....	215	752
Guinea Pig Kidney .....	163	978
Beef Erythrocytes .....	100	600
TOTAL: .....	1,854	8,381

<i>Antisera</i>		
Psittacosis .....	8	240
Vaccinia .....	8	240
Herpes Simplex .....	18	324
Mumps .....	20	360
Influenza A .....	17	306
Influenza B .....	14	252
Adenovirus .....	9	270
L.C.M. ....	3	90
Eastern Equine Encephalomyelitis .....	3	90
Western Equine Encephalomyelitis .....	7	210
Poliomyelitis Types 1-3 .....	31	3,900
Coxsackie A .....	100	1,200
Coxsackie B .....	25	3,200
TOTAL: .....	263	10,682



## INDIAN AND NORTHERN HEALTH SERVICES 1957

### *The Directorate*

An office concerned with the health problems of Indians has existed under various names and in successive departments since Confederation. On inclusion in the Department of National Health and Welfare in 1945 equal concern with Eskimos also was accepted. In 1954 responsibility for co-ordinating health programs in the Yukon and Northwest Territories was added.

### *Indian Health Services*

In the formative years of this country it was the widely accepted rule that if one could pay the price, services could be procured. Those less fortunate had to depend on kindly neighbours. While provision of all or part of the cost of medical care for Indians persists to the present where band funds permit, the plight of those without such funds became too much for local charity. In recent years the central government has provided steadily increasing sums to be devoted to treatment of needy Indians and the development of public health services for Indian communities. Increasing awareness of the needs of Eskimos has brought them under the same program.

Indian Health Services is responsible for a health program only. All other aspects of the relationship of Indians with the federal government are dealt with by the Indian Affairs Branch of the Department of Citizenship and Immigration while the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources protects the interests of Eskimos.

### *Northern Health Services*

Involvement of a federal government agency in the wide field of health in the northern territories has come about because it has been impractical for sparse populations occupying vast areas to organize and maintain autonomous health services. Pending the time when autonomy is feasible, the experience and wide resources of the federal department are at the disposal of these territories with Northern Health Services acting as co-ordinator.

### *Clientele*

While Indians are citizens in every respect, Indians residing on reserves or in acknowledged native communities have certain privileges through a statutory relationship with the federal government. Treatment services are restricted to registered Indians residing in Indian communities and unable to afford independently procured attention. Financial independence or prolonged separation from the native community causes loss of acceptability. The public health services however are extended to all Indians within the scope of a directorate unit.

Eskimos are citizens in all respects but the remoteness of most communities make an agency relationship with the federal government desirable for the present. The financial and residency considerations are as yet of little consequence but in due course will prove of the same interest as among Indians.

A resident of the northern territories may receive medical care from Northern Health Services irrespective of his ethnic origin. Those financially able to do so pay directly to the treatment unit. Public health services are supported by appropriate payments from the territorial government and Indian Health Services.



## **Organization**

The head office in Ottawa delegates to 5 regional offices duties within their scope.

Further decentralization to a zone level occurs with 17 practical administrative segments based on geographic, population and communication considerations. Within this organizational framework operated 17 hospitals, 43 nursing stations and 105 other units.

Extensive use has been made of any existing available treatment or health service with the result that regularly attention has been provided by some 2,000 physicians, 200 dentists, 750 hospitals and the public health services of every province.

Staffing directorate units, managing its programs and monitoring arrangements with non-departmental health services required an establishment of some 1,932 for Indian Health Services and 24 for Northern Health Services. Among these were 517 graduate nurses, 100 medical officers, 21 dental officers and 28 senior administrative officers.

## **Extension of Facilities 1957**

There was a limited increase in personnel but a regrouping made it possible to employ 2 additional medical officers, 11 more nurses and 4 additional senior administrative officers. Besides reinforcing the organization generally this provided for new health centres at Alexis Creek in British Columbia, Uranium City in Saskatchewan, Great Whale River in Quebec and Fort Providence in the Mackenzie District and new nursing stations at Little Grand Rapids in Manitoba, Tuktoyaktuk in the Mackenzie District and Fox in the District of Franklin. Unfortunately the intended 10-bed nursing station at Fox on Melville Peninsula was partially destroyed by fire before coming into use but a smaller operation commenced in the nurses' residence section. One old hospital was closed out because of reduced requirement in the area. This was the 50-bed unit at Selkirk, Manitoba known as Dynevov Hospital. A nursing station on the Tobique Reserve in New Brunswick was closed out because other facilities in the area were now adequate.

## **Activities 1957**

Preventive work continued to be stressed. Indians and Eskimos benefited by the continuing provincial and territorial programs for antipoliomyelitis vaccination with some 71,430 inoculations. The directorate has used the Bacillus Calmette-Guérin vaccine to increase resistance to tuberculosis and inoculated 10,456 during the year.

In spite of precautions there were epidemics among the people. There was a high attack rate—probably 80 per cent—in the pandemic of influenza. The aftermaths of this disease can be very serious where the home is uncomfortable but prompt and extensive use of appropriate antibiotics kept the deaths to small numbers. The other serious communicable disease has been measles. Long debility follows with pneumonia and ear disease if convalescence must accept an unfavourable environment. A proportion of homes are not good and the sense of discipline lacking. The standard of hygiene favours impetigo and scabies which flourished in many groups but yield when vigorous nursing attention comes on to the scene.

In addition to the constant search for disease and disorder maintained by all who provide services, the directorate sends out specialized case-finding

expeditions which do as thorough examinations as circumstances permit but are always equipped with x-ray devices to search for tuberculosis. There were 33 discrete surveys during 1957. They took 116,152 films and located nearly 1,000 cases of many types requiring hospital attention. Of these, 668 were considered tuberculous. Actually the constant search turned up at least 592 cases of tuberculosis but routine search would not locate the cases found on surveys because there is remote likelihood of the people thus reached visiting a medical centre until far advanced in disease.

Tuberculosis has been the great scourge and remains from 5 to 15 times as common among some native groups as is now found in their neighbours but even this is good because the incidence in the settled population has reached remarkably low figures. The commonest causes of death among Indians are shown in Table 17 and Graph 5. It will be recognized that relationships approach those of the country as a whole.

Table 22 shows that there was a continuation of the trend for less treatment days consumed in the care of tuberculosis. This has been largely the result of improved forms of treatment although native patients are not good candidates for the latest ambulant routines which demand good personal and family discipline.

The census of 1949 showed an Indian population of 136,407. That of 1954 was 151,558. We estimate that in 1957 it was 159,000. The death rate was high, around 13 per thousand as compared to all Canada (8.2 in 1956) but the birth rate was over 50 per thousand in some groups as compared to a general figure of 28.0 in 1956. The net gain in recent years would appear to approach 3 per cent which is remarkably high for natural increase. Some vital statistics are shown in Table 16.

### **Appraisal**

The swift review indicates that progress in 1957 was steady but not spectacular. There were appreciable improvements in supply, inventory control and accounting.

### **Acknowledgements**

The directorate enjoyed the close support of those agencies which administer the broad aspects of Indian and Eskimo affairs. The highly valued relationship with the Royal Canadian Mounted Police continued. There was quick and free association with all federal and provincial services which cover the more remote areas which Indians and Eskimos inhabit and especially with the provincial health services.

TABLE 16  
BIRTH AND SELECTED MORTALITY STATISTICS  
Calendar Year 1956

	Live Births		Deaths									
	Under One Month		Under One Year		Maternal		From T.B.		Totals			
	Number	Rate Per 1,000 Live Births	Number	Rate Per 1,000 Live Births	Number	Rate Per 1,000 Live Births	Number	Rate Per 100,000 Est. Pop.	Number	Rate Per 1,000 Est. Pop.		
All Canada (1) .....	450,739	28.0	9,065	20	14,399	32	278	0.6	1,256	7.8	131,961	8.2
Registered Indians (1) (2) .....	5,814	38.3 (2)	185	32	558	96	8	1.4	60	39.6 (2)	1,457	9.6 (2)
Eskimos (4) (6) .....	516	53.3	57 (6)	110	123	238	3	5.8	20	206.4	276	28.5

(1) Source: Vital Statistics Section, Health and Welfare Division, D.B.S.

(2) Excludes Newfoundland, Nova Scotia and the Territories.

(3) Population estimate used by D.B.S. to obtain rates for Registered Indians was slightly higher than I.N.H.S. estimate; the rates arrived at by D.B.S. are therefore somewhat lower than they would have been if the I.N.H.S. estimate had been used.

(4) Source: Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, except as noted in (<sup>6</sup>), below. (Eskimo population base used: 9,690.)

(5) Excluding Labrador.

(6) Source: "A Study of Eskimo Deaths, 1953-57", by Northern Research Co-ordination Centre, and Indian and Northern Health Services. (See footnote (4).)

TABLE 17 TWENTY-ONE LEADING CAUSES OF INDIAN<sup>(1)</sup> AND NON-INDIAN MORTALITY  
Calendar Years 1951-56

CAUSE OF DEATH (Intermediate List)	Rank <sup>(2)</sup>												Number of Deaths <sup>(3)</sup>											
	Indians <sup>(4)</sup>						Non-Indians						Indians <sup>(4)</sup>								Non-Indians			
	'51	'52	'53	'54	'55	'56	'51	'52	'53	'54	'55	'56	'51	'52	'53	'54	'55	'56	'51	'52	'53	'54	'55	'56
A1—A5..... Tuberculosis.....	2	3	6	8	6	7	10	12	13	14	14	14	306	188	123	66	80	65	3,111	2,269	1,687	1,496	1,302	1,191
A17 A18, A21—Communicable Diseases of Childhood.....	10	10	10	12	11	9	16	16	16	17	17	18	50	49	36	25	32	54	662	796	875	497	428	408
A23, A28, A32..... Neoplasms.....	8	7	8	7	8	6	2	2	2	2	2	2	64	99	61	77	72	91	18,005	18,863	19,425	19,983	20,586	21,133
A44—A60..... Diabetes.....	20	15	16*	18	18	19*	14	14	13	12	12	12	3	12	9*	7	6	6*	1,581	1,565	1,610	1,600	1,709	1,714
A63..... Anemia and Avitaminosis.....	19	16	15*	17	17*	19*	17	18	18	18	17	4	11	11*	8	8*	6*	522	491*	466	416	412	431	
A64 A65..... Vascular Lesions of C.N.S.....	9	9	9	9	10	3	3	3	3	3	3	3	52	61	56	45	63	53	12,828	13,287	14,051	13,687	14,082	14,394
A70..... Meningitis, Non-T.B., Non-Meningococcal.....	16	13	16*	14*	17*	16	20	20	20	20	20	20	11	21	9*	14*	8*	10	276	245	271	259	249	232
A71..... Rheumatic Fever.....	18*	20	16	19	19	20	21	19	21	21	21	21	6*	3	9*	5	3	4	253	285	245	197	148	106
A79..... Chronic Heart Disease.....	6	5	5	5	3	4	1	1	1	1	1	1	149	155	138	134	160	138	32,602	33,858	34,728	35,260	36,785	37,886
A80—A81..... Hypertension.....	14	14	13	14*	14	7	6	7	6	7	7	7	13	18	26	14*	16	12	5,781	5,752	5,407	5,001	5,073	4,985
A83 A84..... Diseases of Arteries.....	18*	17	15*	14*	17*	15	11	10	10	10	10	10	6*	10	11*	14*	8*	11	2,742	2,656	2,608	2,743	2,722	2,961
A85..... Acute Respiratory Infections.....	1	1	1	1	1	1	5	7	6	7	6	6	343	344	315	241	347	302	7,195	5,153	5,736	4,929	3,423	5,757
A87—A92..... Diseases of G.I. Tract.....	11	11	12	10	12	11	9	9	9	8	8	8	35	33	27	34	31	31	3,483	3,505	3,640	3,669	3,730	3,812
(except A104)..... Gastroenteritis, Colitis, Dysentery—(Except Diarrhoea of Newborn).....	7	8	7	6	7	8	15	15	15	15	15	15	93	88	102	86	73	64	1,141	1,246	1,104	874	857	831
A104, A16..... Diseases of G.U. System.....	12	12*	14	13	13	13	8	8	8	9	9	9	31	25*	24	17	24	21	4,308	4,039	3,809	3,566	3,626	3,501
A108, A114..... Delivery and Complications of Childbirth.....	15	18	16*	15	16	18	19	18	19	19	19	19	12	9	9*	12	9	8	393	365	315	300	326	270
A115 A120..... Diseases of Skin and Musculo-Skeletal System.....	17	19	17	16	15	17	18	17*	17	16	16	16	7	4	3	9	13	9	481	491*	537	561	604	609
A121—A126..... Congenital Malformations.....	13	12*	11	11	10	12	11	11	11	11	11	11	20	25*	29	27	37	29	2,415	2,598	2,557	2,553	2,574	2,609
A127—A129..... Diseases of Infancy.....	5	6	4	4	5	3	6	5	5	5	5	5	157	128	153	155	149	180	7,074	7,591	7,332	6,965	6,949	7,374
A130—A135..... Senility: Ill-Defined Causes.....	3	2	2	2	4	5	13	13	12	12	13	13	264	244	178	168	150	134	1,972	1,883	1,703	1,712	1,685	1,679
A136—A137..... Accidents.....	4	4	3	3	2	2	4	4	4	4	4	4	173	187	159	165	183	201	9,049	9,557	9,711	9,492	9,896	10,484
A138—A150..... All Other Causes.....													63	83	100	86	106	99	9,560	9,455	9,484	8,760	7,410	7,766
Total Deaths.....													1,267	1,797	1,888	1,409	1,378	1,528	125,434	125,950	127,381	124,520	126,576	130,433

(1) Registered Indians—(but see (4), below).

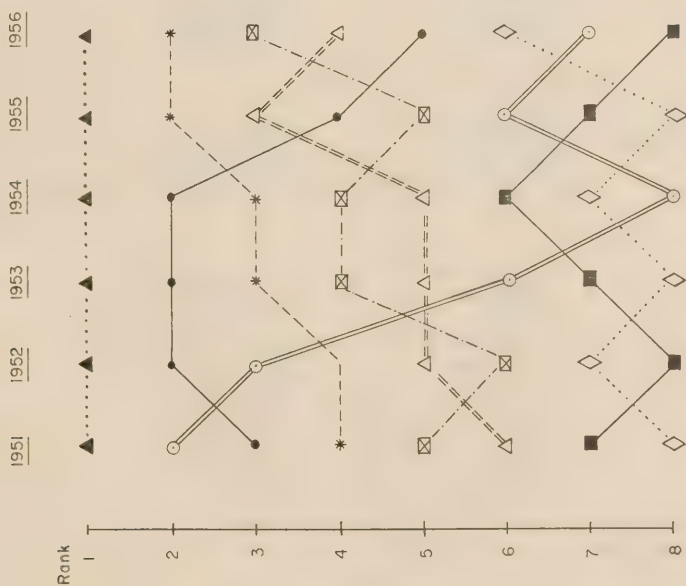
(2) "Rank" refers to the order of magnitude of these 21 selected causes only.

(3) Source: Vital Statistics Section, Health and Welfare Division, D.B.S.

(4) Excluding Newfoundland and Nova Scotia; and excluding the Y.T. and N.W.T. for 1951-54—(See (1) above).

(\*) Where equal number of deaths from two or more causes, these causes given same rank in that year.

GRAPH I: SELECTED CAUSES OF INDIAN MORTALITY BY RANK, 1951 - 1956



Asterisked numbers indicate rank in non-Indian population in 1956.



TABLE 18  
LOCATION, CAPACITY AND STAFF OF I.N.H.S. NURSING STATIONS  
December 31, 1957

I.N.H.S. Region	Nursing Station	Location	Rated Bed Capacity	Total Staff
Eastern.....	Bersimis.....	Bersimis, Que.....	4	2
	Cape Dorset.....	Cape Dorset, N.W.T.....	4	1
	Fort Chimo.....	Fort Chimo, Que.....	4	2
	Fort George.....	Fort George, Que.....	4	2
	Fox.....	Fox, N.W.T.....	4	5
	Frobisher Bay.....	Baffin Island, N.W.T.....	4	2
	Great Whale.....	Great Whale River, Que.....	4	6
	Lake Harbour.....	Lake Harbour, N.W.T.....	4	1
	Manitowaning.....	Manitowaning, Ont.....	14	6
	Port Harrison.....	Port Harrison, Que.....	4	2
	Rupert's House.....	Rupert's House, Que.....	4	2
	Tobique.....	Tobique, N.B.....	6	3
	Totals.....		60	34
Central.....	Baker Lake.....	Baker Lake, N.W.T.....	4	2
	Big Trout Lake.....	Big Trout Lake, Ont.....	4	2
	Cross Lake.....	Cross Lake, Man.....	4	3
	God's Lake Narrows.....	God's Lake, Man.....	4	3
	Island Lake.....	Island Lake, Man.....	4	3
	Lac Seul.....	Lac Seul, Ont.....	4	3
	Lansdowne House.....	Lansdowne House, Ont.....	4	3
	Little Grand Rapids.....	Little Grand Rapids, Man.....	4	2
	Little Saskatchewan.....	Gypsumville, Man.....	4	3
	Nelson House.....	Nelson House, Man.....	4	3
	Oxford House.....	Oxford House, Man.....	4	3
	Pikangikum.....	Pikangikum, Ont.....	4	3
	St. Therese's Point.....	Island Lake, Man.....	4	2
	Sandy Lake.....	Sandy Lake, Ont.....	4	2
	Split Lake.....	Split Lake, Man.....	4	2
	Totals.....		60	39
Saskatchewan.....	Fort à la Corne.....	Kinistino, Sask.....	4	3
	Lac la Ronge.....	Lac la Ronge, Sask.....	4	3
	Onion Lake.....	Onion Lake, Sask.....	4	3
	Pelican Narrows.....	Pelican Narrows, Sask.....	4	2
	Totals.....		16	11
Foothills.....	Cambridge Bay.....	Cambridge Bay, N.W.T.....	2	2
	Coppermine.....	Coppermine, N.W.T.....	4	2
	Driftpile.....	Driftpile, Alta.....	4	1
	Fort Good Hope.....	Fort Good Hope, N.W.T.....	4	2
	Fort McPherson.....	Fort McPherson, N.W.T.....	4	3
	Fort Norman.....	Fort Norman, N.W.T.....	4	3
	Goodfish Lake.....	Speddon P.O., Alta.....	4	2
	Hay Lake.....	Habay, Alta.....	4	2
	Peigan.....	Brocket, Alta.....	11	7
	Saddle Lake.....	St. Bride's P.O., Alta.....	4	2
	Stony.....	Morley, Alta.....	10	6
	Tuktoyaktuk.....	Tuktoyaktuk, N.W.T.....	4	4
	Totals.....		59	36
Grand Totals....			195	120

TABLE 19

## LOCATION, CAPACITY AND STAFF OF I.N.H.S. HOSPITALS

December 31, 1957

Region	Hospital	Location	Rated Capacity				Total Staff
			Beds				
			Gen.	T.B.	Tot.		
East.....	Lady Willingdon.....	Ohsweken, Ont.....	37		37	8	57
	Moose Factory.....	Moose Factory, Ont.....	105	68	173	10	182
	Totals .....		142	68	210	18	239
Central .....	*Brandon.....	Brandon, Man.....		228	228	16	.....
	*Clearwater Lake.....	The Pas, Man.....		150	150	4	.....
	Fisher River.....	Hodgson, Man.....	20	12	32	4	30
	Fort Alexander.....	Pine Falls, Man.....	20		20	5	19
	Norway House.....	Norway House, Man.....	34		34	4	78
	Sioux Lookout.....	Sioux Lookout, Ont.....	25	45	70	8	96
	Totals.....		99	435	534	41	223
Saskatchewan	Ft. Qu'Appelle.....	Ft. Qu'Appelle, Sask.....	112		112	6	97
	N. Battleford.....	N. Battleford, Sask.....	55		55	5	58
	Totals.....		167		167	11	155
Foothills.....	Blackfoot.....	Gleichen, Alta.....	37		37	4	36
	Blood.....	Cardston, Alta.....	46		46	5	38
	Charles Camsell.....	Edmonton, Alta.....	80	488	568	6	354
	Hobbema.....	Hobbema, Alta.....	27		27	4	19
	Totals.....		190	488	678	19	447
Pacific.....	Coqualeetza.....	Sardis, B.C.....		190	190		148
	Miller Bay.....	Prince Rupert, B.C.....		171	171		148
	Nanaimo.....	Nanaimo, B.C.....		215	215		175
	Totals.....			576	576		471
Grand Totals.....			598	1,567	2,165	89	1,535

\* Operated for Indian and Northern Health Services by the Sanatorium Board of Manitoba.

TABLE 20  
I.N.H.S. HEALTH CENTRES  
December 31, 1957

I.N.H.S. REGION	HEALTH CENTRE
Eastern.....	Belcher Islands, N.W.T. Big Cove, N.B. Chapleau, Ont. Chatham, N.B. Chippewa Hills, Ont. Christian Island, Ont. Eskasoni, N.S. Kingsclear, N.B. Knob Lake, Que. Lennox Island, P.E.I. Maniwaki, Que. Manowan, Que. Mingan, Que. (Seasonal) Mistassini, Que. (Seasonal) Muncey, Ont. Obedjiwan, Que. (Seasonal) Oka, Que. Orillia, Ont. Parry Sound, Ont. Peterborough, Ont. Pointe Bleue, Que. Rapid Lake, Que. (Seasonal) Restigouche, Que. Romaine, Que. (Seasonal) St. Regis, Que. Sault Ste. Marie, Ont. Seven Islands, Que. Shubenacadie, N.S. Sturgeon Falls, Ont. Temiskaming, Que. Walpole Island, Ont. Waswanipi, Que. (Seasonal)
Central.....	Dauphin, Man. Fort Frances, Ont. Kenora, Ont. Nakina, Ont. Pickle Lake, Ont. Portage la Prairie, Man. Port Arthur, Ont. Sandy Bay, Man.
Saskatchewan.....	Broadview, Sask. Kamsack, Sask. Meadow Lake, Sask. Punnichy, Sask. Shellbrook, Sask. Uranium City, Sask. White Bear Lake, Sask.

TABLE 20 (Concluded)

I.N.H.S. REGION	HEALTH CENTRE
Foothills.....	Calgary, Alta. Carmacks, Y.T. Fort Chipewyan, Alta. Fort Rae, N.W.T. Fort Resolution, N.W.T. Fort Simpson, N.W.T. High Prairie, Alta. Providence, N.W.T. St. Paul, Alta. Teslin, Y.T. Wabasca, Alta.
Pacific.....	Aiyansh, B.C. Alert Bay, B.C. Alexis Creek, B.C. Duncan, B.C. Fort St. John, B.C. Greenville, B.C. Hazelton, B.C. Kamloops, B.C. Lillooet, B.C. Massett, B.C. Merritt, B.C. Nootka, B.C. Port Simpson, B.C. Telegraph Creek, B.C. Tofino, B.C. Vanderhoof, B.C. Vernon, B.C.



TABLE 21  
I.N.H.S. CLINICS  
December 31, 1957

I.N.H.S. REGION	CLINIC
Eastern.....	Amos, Que. Caughnawaga, Que. Deseronto, Ont. James Bay, Ont. Manitowaning, Ont. Ohsweken, Ont. Pangnirtung, N.W.T. Sarnia, Ont. Sydney, N.S.
Central.....	Chesterfield, N.W.T. Fisher River, Man. Norway House, Man. Pine Falls, Man. Sioux Lookout, Ont. The Pas, Man. Winnipeg, Man.
Saskatchewan.....	Fort Qu'Appelle, Sask. North Battleford, Sask. Prince Albert, Sask.
Foothills.....	Aklavik, N.W.T. Cardston, Alta. Edmonton, Alta. Fort Smith, N.W.T. Gleichen, Alta. Hobbema, Alta. Whitehorse, Y. T.
Pacific.....	Miller Bay, B.C. Sardis, B.C. Vancouver, B.C. William's Lake, B.C.

TABLE 22  
REGISTERED INDIAN AND ESKIMO IN-PATIENT MOVEMENT BY CONDITION  
AND REGION IN ALL I.N.H.S. AND NON-I.N.H.S. INSTITUTIONS  
Calendar Years 1955 to 1957

Region	Condition	Patients Under Care			Patient Days			Average Stay of Separations		
		1955	1956	1957	1955	1956	1957	1955	1956	1957
Eastern	General	10,198	11,571	11,227	154,322	172,789	153,731	14.8	14.3	14.0
	Tuberculosis	1,596	1,048	1,048	221,606	221,818	163,580	235.8	260.6	308.0
	Mental	1,208	1,289	1,194	55,496	57,599	52,151	747.9	1,453.7	860.6
	Totals	12,000	13,405	12,469	431,424	457,206	369,462	37.9	42.1	35.1
Central	General	8,078	8,255	10,700	97,052	94,446	120,327	12.3	11.3	11.6
	Tuberculosis	1,424	1,068	948	193,676	150,825	137,028	213.0	247.6	313.1
	Mental	1,070	66	63	16,462	16,044	15,195	800.8	593.7	574.8
	Totals	9,572	9,389	11,711	307,190	261,315	272,550	40.1	29.1	28.5
Saskatchewan	General	6,226	7,296	8,493	66,563	79,707	91,619	10.7	11.3	11.1
	Tuberculosis	849	732	538	95,827	95,827	84,030	167.7	184.5	269.1
	Mental	55	69	92	15,005	15,814	20,082	666.7	291.2	369.8
	Totals	7,130	8,097	9,123	181,661	191,348	195,751	25.9	23.7	22.2
Foothills	General	7,230	8,471	9,220	99,430	106,104	113,892	12.4	11.7	12.5
	Tuberculosis	1,000	865	650	200,252	151,864	123,411	438.3	481.9	455.1
	Mental	1,58	71	55	15,209	17,399	16,217	1,353.5	164.1	1,079.7
	Totals	8,288	9,407	9,925	314,891	275,367	253,520	46.3	39.2	28.3
Pacific	General	256*	10,268	10,801	102,935	117,733	138,894	39.7*	11.4	13.2
	Tuberculosis	1,009	945	699	161,827	145,508	132,519	366.1	247.1	382.4
	Mental	81	80	84	23,174	23,886	23,234	455.2	641.0	885.3
	Totals	1,346*	11,293	11,584	287,936	287,127	294,647	280.5*	25.7	27.4
All Indians	General	31,988*	45,861	50,441	520,302	570,779	618,463	13.0*	12.0	12.5
	Tuberculosis	5,878	5,295	3,883	829,454	770,842	640,388	280.4	270.1	336.0
	Mental	470	495	488	123,346	130,742	126,879	780.9	808.2	696.9
	Totals	38,336*	51,591	54,812	1,523,102	1,472,363	1,385,930	43.8*	32.7	28.6
Eskimos	General	845	1,711	2,017	37,518	46,256	46,305	44.2	30.4	23.7
	Tuberculosis	1,356	1,578	1,287	183,336	231,425	206,551	236.5	230.8	323.3
	Mental	13	27	26	3,888	4,452	4,529	10.0	1,063.4	278.2
	Totals	2,214	3,316	3,330	224,742	282,133	257,385	139.3	107.4	109.1
Indians Plus Eskimos	General	32,833*	47,572	52,458	557,820	617,035	664,768	13.7*	12.8	13.0
	Tuberculosis	7,234*	6,813	5,170	1,062,790	1,002,267	847,719	244.2	263.9	332.9
	Mental	483	522	514	127,254	135,194	131,408	774.4	825.1	660.8
	Totals	40,550*	54,907	58,142	1,747,844	1,754,496	1,643,315	47.4	36.4	32.6

\* Excluding B.C.H.I.S.

## **MEDICAL ADVISORY SERVICES**

### **CIVIL AVIATION MEDICINE DIVISION**

The Division acts as medical adviser to the government and associated agencies on problems related to the health, safety and comfort of aircrew, groundcrew and airline passengers. The rapid expansion and the changing requirements in civil air transportation have required continued study in the establishment and application of medical standards for aviation personnel licensed by the Department of Transport.

An active program for the promotion of education in aviation medicine for the regional medical consultants, regional medical assessing officers and the regional medical examiners was continued. Special short courses and conferences were sponsored with the assistance of the Department of Transport, Royal Canadian Air Force Institute of Aviation Medicine and the Defence Research Medical Laboratories.

Research in the field of civil aviation medicine is becoming increasingly important with the introduction of high speed, high altitude passenger carrying aircraft. Close liaison is maintained with the National Research Council, the Defence Research Board, the Royal Canadian Air Force Institute of Aviation Medicine and other agencies concerned with research in this field.

### **CIVIL SERVICE HEALTH DIVISION**

The close of the fiscal year, 1957-58, marks the eleventh year during which the Division provided a comprehensive occupational health program for federal government employees. The divisional staff has continued to co-operate most closely in the development of more effective community resources particularly in the fields of the aging, rehabilitation, cancer control and alcoholism. The full and intelligent use of the benefits to be derived from these community resources has contributed greatly to the general efficiency and morale of the public service. It is gratifying to report on the increasing frequency with which these welfare agencies call upon the resources of this Division for assistance and guidance in the further pursuit of their program objectives.

#### ***Administration***

Advisory, diagnostic and emergency medical services have been administered, through the Health Centre, to approximately 35,000 government employees in the Ottawa area and nursing counsellor service, through 23 full-time and 4 part-time units, to some 29,500 employees in government departments. Additionally, an advisory service on all matters affecting health and welfare is provided to departments for employees located outside Ottawa. No major changes in administrative policies or practices have been instituted during the year.

#### ***Health Centre Services***

Table 23 summarizes in detail the types of clinical service conducted at the Health Centre for the fiscal year under review. The first responsibility of the clinical team is to investigate and, where necessary, conduct physical examinations of employees referred from the health units.

Secondly, is the conduct of all obligatory medical examinations required by statute. The volume of medical examinations carried out under this category has increased greatly since 1955 when the Division was called upon to provide medical examinations for the dependents of foreign service officers and employees prior to and on return from postings abroad, and further to arrange for treatment of conditions attributable to the post abroad. Latterly, the administration of similar services to Colombo Plan assignees has been undertaken, all of which has intensified the medical advisory role of this Division to the Departments of External Affairs and Trade and Commerce.

Thirdly, the clinical team at the Health Centre has been called upon to meet an increasing demand by departments for periodic health examinations of special employee groups; employees proceeding on summer field work handling radioactive materials; selected groups of senior administrative personnel; personnel engaged in special types of employment where an estimate of physical capacity for the job is required; and finally, ophthalmological examinations on employees whose work demands a high standard of visual efficiency.

Immunization procedures carried out at the Health Centre, as shown in Table 23, increased substantially during the year. Some 2,310 persons received 3,729 immunizations, an increase in volume of approximately 20 per cent. This increase was accounted for in part, on the one hand, by the administration of poliomyelitis (Salk vaccine) vaccine to children of foreign service personnel proceeding abroad, and, on the other, by the introduction of Asian influenza vaccine during the influenza outbreak in the fall of 1957. The latter was administered to special groups of personnel whose work was considered vital to the maintenance of essential government services.

The Certificate Review Section moved to new quarters in October 1957. A total of 96,330 certificates of disability for duty and 10,370 physical examination record forms were reviewed and processed. This Section also arranged for 365 medical examinations outside Ottawa, a significant number of which were for Colombo Plan assignees. The remainder were, in the main, for extension of employment beyond the age of 65, confirmatory examinations in connection with retirement from the service on medical grounds or examinations for assessment of physical fitness for job suitability at departmental request. Heretofore, the Annual Statistical Report on "Illness in the Civil Service" compiled from sick leave certificates by the Public Health Section of the Bureau of Statistics has been published on a fiscal year basis. The report in future, commencing January 1, 1958, will be published on a calendar year basis and will show both calendar and working days lost. Table 24 summarizes retirements from the service on medical grounds according to disability during 1957-58.

The psychiatrist and psychologist have continued to work at full capacity. The number of cases referred to the psychiatrist increased by 17 per cent over the previous year. Of these almost 80 per cent were referrals from the Civil Service Commission and Personnel Divisions of government departments. This desirable trend has resulted from the encouragement given the Commission and personnel officers to discuss specific case problems with the psychiatrist. The psychologist conducted some 874 interviews during the year. More than half were held at the Health Centre, thus enabling him to work as closely as possible with the clinical team. He also serves as an advisory member on the interdepartmental committee



on counselling. Because of his wide experience in this field his advice is constantly sought by the Commission and departments alike in shaping new policies with respect to counselling in government departments.

### **Health Unit Services**

Services rendered by the 23 full-time and 4 part-time health units in operation during the fiscal year are summarized in Table 25. The trend towards decentralization of government buildings to outlying areas initiated in the previous 2 years has continued to a somewhat lesser extent. Two new health units were opened in the course of the year, the first located in the old Printing Bureau on St. Patrick Street was necessitated by the transfer of the Inspection Services staff of the Department of National Defence from No. 8 Temporary Building. The second was completed and opened early in the fiscal year in No. 5 Temporary Building, thus replacing the limited service formerly provided employees of the Unemployment Insurance Commission. Provision has been made and plans drawn up for the establishment of health units in new government buildings presently under construction. Among these are buildings for the Mines Branch on Booth Street, the new Trade and Commerce Building on Wellington Street, and the new buildings projected for the Departments of Agriculture, Post Office and Public Works. At the present time each of the three buildings (A, B and C) at Cartier Square housing employees of the Department of National Defence is equipped with a separate health unit. Plans are well advanced for the amalgamation of these three units into one central location in C Building. This move will provide both economy in nursing counsellor staff as well as administrative efficiency inasmuch as one large unit will service the entire civilian employee staff of the Department of National Defence. In addition to the full-time and part-time units referred to above, certain scattered employee groups in isolated areas receive either visiting nursing counsellor service on a regular basis or are allocated to adjacent nearby units.

The Division has given advice and assistance both to the Canadian Broadcasting Corporation in Toronto and Montreal and the National Film Board in Montreal in the planning and development of health service programs. These agencies have been advised concerning equipment, space and personnel as well as in the basic principles and policies of occupational health services programs.

### **Staff Education**

As in former years a carefully planned program of in-service training has been carried out under the direction of the Chief Supervisor of Nursing Counsellors and the Consultant in Social Services. Regular staff conferences were held utilizing all of the consultative resources at the Health Centre. Whereas in the previous 2 years attention was focused on "The Problem of the Working Mother", this year the program concerned itself with "Aging". Staff education is of the utmost value to nursing counsellors as it not only stimulates their thinking but keeps them abreast of the latest developments in the health and social fields.

### **Special Activities**

Each year apart from its normal service functions the Division is called upon to support and participate in a number of special activities or community projects. This year has been no exception.

Following reports on the spread of Asian influenza to this continent early in the summer of 1957 the Division was called upon to collaborate closely with the Laboratory of Hygiene, the Epidemiology Division and the Bureau of Statistics in the development of measures designed to control or limit the spread of this epidemic. All facilities of both the Health Centre and health units were placed at the disposal of these agencies. Throat gargle samples were collected on suspect cases and forwarded to the Laboratory of Hygiene for analysis. Statistical and other relevant data available from health unit records on acute respiratory disease and suspect Asian influenza cases was forwarded both to the Epidemiology Division and the Bureau of Statistics as requested. Further, the Health Centre acted as a distributing centre for Asian influenza vaccine and the medical staff participated actively in the closely controlled vaccine program.

During the 3-week period, September 9-27, 1957, the Mobile Educational Unit of the Ontario Division, Canadian Cancer Society "Little Red Door", visited Ottawa and conducted its health educational program for federal government employees. The nursing counsellor staff this year was responsible for the arrangements.

In October and November 1957, the Division co-operated with and acted in an advisory capacity to the Civil Service Commission during the Mass Chest X-Ray Survey conducted throughout the City of Ottawa by the Division of Tuberculosis Prevention of the Ontario Department of Health. The number of civil servants x-rayed was 31,095. Although the final results of the survey are not yet available, preliminary figures indicate that there has been a further and marked decline in the incidence of pulmonary tuberculosis since the previous survey in 1953, from 0.31 per cent to less than half—0.14 per cent. The overall incidence of both pulmonary tuberculosis and active pulmonary disease closely approximates the incidence in Ottawa industry, educational and religious institutions, and the community at large.

The development and implementation of a more positive approach to the problem of alcoholism in the Civil Service was pursued with vigour during the year. The Division's plan for the detection, treatment and rehabilitation of alcoholics under the direction of the Divisional Psychiatrist was launched at a meeting in February sponsored by the Civil Service Commission and attended by key departmental representatives.

The Division continues to extend its facilities to undergraduate medical students from the University of Ottawa and to Public Health Schools of Nursing for field training. Field trips to the Health Centre and health units were arranged for all fourth year medical students from the University of Ottawa. Similar visits were made by postgraduate students from the Schools of Nursing at the University of Ottawa and McGill.

For several years the Provincial Department of Health in Saskatchewan has been giving serious consideration to the establishment of a health service for provincial government employees. Plans are now proceeding for the establishment of a health service program utilizing this Division's organization and experience as a guide.

TABLE 23

(Civil Service Health Division)

## HEALTH CENTRE STATISTICS

Fiscal Year 1957-58

## Number of Visits

Total .....	7,516
First visit .....	3,368
Repeat visit .....	4,148

## Visits by Sex

Total .....	7,516
Male .....	4,817
Female .....	2,699

## Analysis of Visits

Physical examinations .....	2,810
Pre-employment, periodic, P.S.S.A. ....	502
Foreign service, isolated duty, postings, etc .....	534
Referrals—voluntary, department, health unit, etc .....	1,774
Consultations, interviews, etc .....	4,574
Psychological .....	874
Psychiatric .....	350
Special, eye, x-ray, immunization .....	3,350
Accidents .....	132
Industrial .....	21
Non-industrial .....	111

## Immunizations

Total number of employees immunized .....	2,310
Total immunizations .....	3,729
Smallpox .....	880
T.A.B.T. ....	1,413
T.A.B. ....	269
Cholera .....	293
Typhus .....	97
Yellow fever .....	331
Other .....	446

## Disposal

Total .....	7,516
Returned to work .....	7,457
Sent home .....	59

## Referred to Family Physician .....

98

## Total Laboratory Procedures .....

4,657

## X-Ray

Total .....	4,219
Chest .....	2,153
Chest (photoroentgen unit) .....	1,598
Other .....	468

TABLE 24

(Civil Service Health Division)

## RETIREMENTS FROM SERVICE—ACCORDING TO DISABILITY

Fiscal Year 1957-58

Male, 137—Female, 51—Total, 188

Cause of Disability	Age Groups					Total
	Under 40	40-44	45-49	50-54	55-59	
Infective and parasitic.....	1	2	0	0	3	6
Neoplasms.....	1	1	7	5	5	19
Allergic, endocrine, metabolic, nutritional	1	2	0	1	5	9
Blood and blood forming.....	0	0	0	0	1	1
Mental psychoneurotic personality.....	6	5	6	4	11	32
Nervous systems and sense organs.....	5	6	3	3	6	23
Circulatory.....	3	1	5	7	34	50
Respiratory.....	0	2	1	4	4	11
Digestive.....	0	0	2	1	5	8
Genito-urinary.....	0	1	1	1	0	3
Pregnancy, childbirth.....	0	0	0	0	0	0
Skin and cellular.....	1	0	0	0	0	1
Bones and organs of movement.....	0	2	2	2	8	14
Congenital malformation.....	0	0	0	0	2	2
Symptoms and ill-defined.....	1	0	0	3	2	6
Accidents and results of old injuries.....	1	0	0	0	2	3
Total.....	20	22	27	31	88	188



TABLE 25  
(Civil Service Health Division)  
HEALTH UNIT STATISTICS  
By Months, Fiscal Year 1957-58

	Total	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
Number of personnel under supervision		27,761	27,823	28,128	28,700	28,064	28,717	28,870	28,350	28,275	28,956	28,656	23,604
Number of health units in operation		21	21	21	21	21	22	22	22	22	22	22	23
Number of visits—													
Total	199,949	15,652	17,169	16,155	15,831	14,918	17,893	20,322	15,581	15,193	18,228	16,843	16,164
First visit	143,311	10,829	11,964	11,713	11,197	10,555	13,096	14,613	11,001	11,179	13,334	12,155	11,675
Repeat visit	56,638	4,823	5,205	4,442	4,634	4,363	4,797	5,709	4,580	4,014	4,894	4,688	4,489
Visits by sex—													
Total	199,949	15,652	17,169	16,155	15,831	14,918	17,893	20,322	15,581	15,193	18,228	16,843	16,164
Males	94,119	7,285	7,922	7,519	7,339	6,905	8,641	9,770	7,375	7,801	8,610	8,154	7,519
Females	105,830	8,367	9,247	8,637	8,492	8,013	9,252	10,552	8,206	8,112	9,618	8,689	8,645
Nature of visits—													
Total	199,949	15,652	17,169	16,155	15,831	14,918	17,893	20,322	15,581	15,193	18,228	16,843	16,164
Illness	85,089	6,762	7,289	6,809	7,049	6,528	7,743	8,030	6,651	6,291	7,708	7,116	7,105
Accident	15,548	1,259	1,487	1,305	1,354	1,274	1,103	1,301	1,421	1,174	1,265	1,285	1,139
Consultations	18,195	1,541	1,778	1,319	1,300	1,408	1,176	1,630	1,434	1,311	1,741	1,435	1,485
Return-to-work visits	81,119	6,090	6,615	6,322	5,748	5,678	7,571	9,361	6,255	6,417	7,597	6,999	6,486
Classification of first visits—													
Total	143,311	10,829	11,964	11,713	11,197	10,555	13,096	14,613	11,001	11,179	13,334	12,155	11,675
Respiratory	47,376	3,155	2,502	2,027	2,170	2,219	5,592	7,540	3,944	4,030	5,264	5,032	4,393
Digestive	20,701	1,138	2,175	2,281	2,400	2,200	1,561	1,255	1,311	1,588	1,772	1,286	1,384
Skin and cellular	9,043	702	816	1,082	1,047	810	695	615	639	549	665	669	655
Venereal disorders	6,840	577	766	573	717	573	490	478	503	548	536	462	537
Emotional disorders	1,735	160	157	164	164	160	124	115	130	139	143	132	147
Contagious diseases	84	11	8	3	7	6	6	6	7	5	9	9	12
Accidents, non-industrial	6,414	504	609	641	708	542	447	467	469	504	536	489	498
Accidents, industrial	5,295	402	526	498	443	359	371	430	446	437	484	463	436
Ill-defined and all others	45,733	3,680	4,405	4,357	4,041	3,686	3,810	3,707	3,552	3,279	3,980	3,613	3,613
Disposal—													
Total	199,949	15,652	17,169	16,155	15,831	14,918	17,893	20,322	15,581	15,193	18,228	16,843	16,164
Sent home	6,546	416	393	305	378	398	836	1,230	496	401	708	514	471
Returned to work	193,403	15,236	16,776	15,850	15,453	14,520	17,057	19,092	15,085	14,792	17,520	16,329	15,693
Referrals—													
Total	11,791	947	1,046	979	1,050	944	1,085	1,017	941	821	1,120	974	857
Referred to Health Centre	2,235	234	218	190	155	172	187	184	173	142	204	184	173
Referred to family physician	8,410	627	705	969	769	688	800	740	672	608	804	685	615
Referred to community agencies	1,146	86	122	93	126	84	98	93	96	71	112	87	78

Index of Participation—

Average monthly number of employee health unit visits per 100 personnel supervised.....60

## QUARANTINE, IMMIGRATION MEDICAL AND SICK MARINERS SERVICES

### **Quarantine Service**

The Quarantine Service is responsible for the administration of the Quarantine Act and Regulations and the Leprosy Act.

In co-operation with the World Health Organization, the Quarantine Service, adopted by the Fourth World Health Assembly on May 25th, 1951, is responsible for the enforcement of laws and regulations with the essential aim of ensuring the maximum security against the entry and spread of the 6 major quarantinable diseases which are smallpox, plague, cholera, yellow fever, typhus and louse-borne relapsing fever.

The most important of these diseases, as far as Canada is concerned, is smallpox and the measures designed to prevent its entry rely on vaccination. Present regulations require all persons entering Canada from countries other than the United States to furnish to the quarantine officer at their port of arrival evidence of immunity from smallpox. During the year 1,390,000 persons entered Canada with valid vaccination certificates.

For Canadians who anticipate travel to yellow fever infected areas of the world, the Quarantine Service maintains 13 strategically located centres in Canada and 1 in Europe where immunization against yellow fever may be obtained free of charge, and during the past year 2,903 persons have availed themselves of this service.

Canada participates in the effective operation of measures designed to prevent plague through the port-to-port migration of rats. Inspection and fumigation facilities are maintained at all the major ports.

No cases of cholera arrived at Canadian ports or airports during the year and the care now exercised in the handling of food and the chlorination of water supplies has effectively reduced outbreaks on international conveyances in recent years.

Effective measures were taken to rid infested refugees of body lice and thus to prevent the entry to Canada of typhus and relapsing fever, both of which have as a vector the body louse. On both coasts facilities are maintained to deal with persons and conveyances found to be infected with disease or infested with vermin and effective methods for the sterilization of goods or things so infested are always kept in a state of readiness.

Information concerning outbreaks of quarantinable diseases in most countries is transmitted by the World Health Organization to all member states. During the year, the Overseas Immigration Medical Service commenced reporting immediately by cable when a major quarantinable disease was recognized in the British Isles or continental Europe.

Local customs officers, in their capacity as quarantine officers at unorganized ports, reported the entry of 781 vessels and 1,090 aircraft.

TABLE 26  
(Quarantine Service)

SHIPS BOARDED BY QUARANTINE OFFICERS, 1957-58

The following table indicates the number of ships boarded during the fiscal year 1957-58, also total personnel on board, divided into their respective groups.

Station	Vessels Inspected	Personnel Inspected				Port Totals
		Crews	Passengers	Stowaways	Others	
Halifax, N.S. ....	696	70,062	95,575	23	2	165,662
Saint John, N.B. ....	327	17,121	5,724	4	8	22,857
Quebec, P.Q. ....	2,097	134,294	152,667	12	16	286,989
William Head, B.C. ....	692	33,383	9,764	2	7	43,156
Totals .....	3,812	254,860	263,730	41	33	518,664

TABLE 27  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1957-58

Port	Vessels inspected, fumigated and deratting certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total vessels inspected	Rodents recovered	
						Rats	Mice
Halifax, N.S.	3	35	77		115	10	
Sydney, N.S.		7			7		
Saint John, N.B.	1	30	10		41		
Seven Islands, P.Q.		9			9		
Quebec, P.Q.	2	15			17	78	
Port Alfred, P.Q.		25			25		
Three Rivers, P.Q.							
Sorel, P.Q.							
Montreal, P.Q.	3	89	1	1	94	32	5
Port Alberni, B.C.							
Vancouver, B.C.	25	99	31	341	496	248	
Victoria, B.C.	1	36	1	129	167	23	
Totals	35	345	120	471	971	391	5

TABLE 28  
(Quarantine Service)  
INSPECTION OF AIRCRAFT SUBJECT TO QUARANTINE  
Fiscal Year 1957-58

Airport	Number of Aircraft	Number of Crew	Number of Passengers	Total Persons
Dorval, P.Q.....	2,187	19,060	111,670*	130,730
Edmonton, Alta.....	6	62	21	83
Gander, Nfld.....	7,745	65,132	350,443	415,575
Goose Bay, Nfld.....	1,090	10,656	49,070	59,726
Malton, Ont.....	526	3,034	20,743	23,777
Moncton, N.B.....	99	811	5,312	6,123
Ottawa, Ont.....	13	148	493	641
Sea Island, B.C.....	1,893	9,835	69,181	79,016
Stephenville, Nfld.....	230	1,860	10,841	12,701
Sydney, N.S.....	235	1,962	10,048	12,010
Windsor, Ont.....	47	385	1,481	1,866
Winnipeg, Man.....	377	3,682	14,231	17,913
Totals.....	14,448	116,627	643,534	760,161

\* This figure includes 6,304 landed immigrants via Domestic.

### Leprosy

The leprosarium at Bentinck Island, B.C., was closed at the end of the fiscal year 1956-57 and all patients requiring active treatment during the year 1957-58 were accommodated in Hotel-Dieu de St. Joseph Hospital at Tracadie, N.B.

Eight patients were under active treatment at Tracadie at the beginning of the fiscal year. One elderly patient died in September. There were no admissions during the year.

A total of 12 patients are under the care of their family physicians who are administering treatment while these patients are under surveillance of medical officers of health at their homes. Most patients require medication to prevent recurrence of the disease. Due to the toxicity of the drugs administered, careful medical supervision is required.

The facilities at Tracadie are on a tract of land adjoining the scenic Gulf of St. Lawrence. There are 12 well-furnished private rooms, comfortable living room facilities and a woodworking shop. The complete facilities of the adjoining general hospital are available when required and land extending to the Gulf of St. Lawrence is reserved for recreational use. It is anticipated that a television station will soon be operating in the area and this is eagerly awaited by the patients.

Statistics for 1957-58 follow.



TABLE 29  
ANNUAL CENSUS—LEPER PATIENTS  
1957-58  
(Tracadie, N.B.)

<b>Inpatients:</b>	
Remaining from 1956-57 .....	8
Admitted during year .....	0
Died during year .....	1
Remaining in hospital as of March 31, 1958 .....	7
<b>Outpatients:</b>	
Continuing treatment at home under medical supervision .....	12
Total known cases in Canada .....	19

### **Immigration Medical Service**

Authority for the inspection and medical care of immigrants is provided in the Department of National Health and Welfare Act and the Immigration Act, and is assigned to the Immigration Medical Service which has 4 main sections, as follows:

A *European Section* which is responsible for the preliminary medical and x-ray examination, assessment and classification of proposed migrants in the British Isles and Europe.

A *Prescreening Section* which is responsible for preliminary examinations performed by selected physicians located at numerous centres in Asia, Africa, Australia, South America and foreign countries in North America.

The *Canadian Section* is responsible for final investigation and treatment at Canadian seaports and airports and also for treatment arrangements at many other centres in Canada. For many years treatment was available only to those who were ill on arrival or who required treatment while being accommodated in immigration halls. Since 1952, however, there has been a gradual extension of treatment and immigrants if indigent are now provided with free treatment under certain circumstances. In June 1957 the treatment authority was broadened to cover any person under the care of the Department of Citizenship and Immigration.

The *Headquarters Section* is responsible for the overall operation of the Immigration Medical Service and for liaison with and the transmission of advice to provincial health departments regarding persons requiring special supervision or treatment to protect the public health.

The head office of the *European Section* is located in London, England. Officers for the examination of migrants are located at London, Liverpool, Leeds, Bristol, Glasgow, Belfast, Dublin, Paris, Brussels, The Hague, Cologne, Berlin, Hamburg, Stuttgart, Munich, Copenhagen, Helsinki, Vienna, Rome and Athens. All the above offices are staffed by Canadian physicians with the exception of Dublin. Examinations at all the above offices are provided free of charge and x-rays are also provided free at London, Liverpool, Leeds, Glasgow, Belfast, Bristol, Dublin, Paris and The Hague. For x-rays at other centres the migrant is charged an approved fee by the clinic appointed. Examinations at centres, where a small number of migrants is examined, are carried out by specially appointed physicians called roster doctors. These are located at various centres in the British Isles, Malta, Switzerland, Portugal, Norway, Sweden, Finland and France. Roster doctors charge a fee for each examination. Their work is closely supervised by a regional Canadian office. Roster doctors are also employed in Asia and are located at Hong Kong, New

Delhi, Bombay, Calcutta and Karachi. Supervision and training of this group was a problem during the year and plans were laid to post a Canadian medical officer at New Delhi.

The overall total of new examinations in the United Kingdom during the year was 74,529, a decrease of 81,601 from the 1956-57 total. Re-examinations numbered 10,396, a decrease of 7,920 from the previous year. On the Continent of Europe, initial examinations were performed on 133,487 applicants, a decrease of 43,524 from 1956-57 while the total re-examinations were 20,258, a decrease of 2,394 from last year.

The overall total of new examinations was 208,016, a decrease of 125,126 from 333,142 in 1956-57, while total re-examinations were down to 31,470 from the 1956-57 figure of 41,533.

In the British Isles, in April and May, there was an increase in the number examined compared with the corresponding months of the previous year but from August onward there was a considerable decrease. Apart from the reduction in the number of Hungarian refugees, at least a portion of the decrease from the United Kingdom has been attributed to the termination of the Suez crisis, increased employment in the United Kingdom, and to frequent accounts in the British press of a recession in Canada and heavy unemployment.

The decrease in examinations on the Continent of Europe is, in part, due to the decrease in the number of Hungarian refugees. In Holland, Greece and Finland, examinations were slightly higher than in the previous year.

During the year, new offices were opened at Leeds and Helsinki, the former being equipped with x-ray. X-ray equipment at Glasgow was replaced with new and more modern equipment.

Travelling teams of Canadian medical officers worked outside their regular offices at various times during the year and carried out examinations in Birmingham, the Azores, Spain, Malta, Sweden, Finland and, in France, at Quimper, Bordeaux and Avignon.

At the close of the fiscal year, 64 Canadian medical officers were employed in offices in the United Kingdom and continental Europe, as well as a locally-engaged clerical staff numbering 99. It is anticipated that the inauguration of a pension scheme to cover locally-engaged staff in the United Kingdom will help to reduce staff turn-over.

Medical facilities for the examination and treatment of passengers arriving by sea are available at St. John's, Nfld., Sydney and Halifax, N.S., Saint John, N.B., Port Alfred, Rimouski, Quebec and Montreal, P.Q., Vancouver and Victoria, B.C.

Medical facilities for the examination and treatment of passengers arriving by air are located at airports at Gander and Stephenville, Nfld., Sydney, N.S., Moncton, N.B., Dorval, P.Q., Ottawa, Toronto, London and Windsor, Ont., Winnipeg, Man., Edmonton, Alta., and Vancouver, B.C. Sick bays for the treatment of immigrants are located in Immigration Buildings at Halifax, N.S., and Saint John, N.B., and there is a 200-bed Immigration Hospital at Quebec.

The Hungarian refugee movement to Canada was practically completed at the end of the fiscal year and approximately 36,000 were admitted from the date of the revolt in Hungary. A number of these persons were suffering from chronic diseases such as pulmonary tuberculosis and were admitted to Canada as non-immigrants. Many had to be isolated or admitted for institutional treatment. Some have since been released as arrested cases and are now under the surveillance of the provincial

departments of health. Re-examinations are performed from time to time and those who cease to be a public health hazard are medically upgraded, which permits their being "landed" as immigrants.

TABLE 30  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES  
Fiscal Year 1957-58

## CANADA:

Immigrants medically inspected on arrival at ocean and airports .....	240,947
Non-immigrants medically inspected on arrival at ocean and airports .....	43,071
Certified as "prohibited" under Immigration Act, Section 5, (a) (b) and (s) .....	310
Certified as physically defective, Section 5 (c) .....	1,863

## OVERSEAS—British Isles, Continent of Europe and Orient:

Prospective emigrants medically examined .....	211,982
Certified as "prohibited" under Immigration Act, Section 5, (a) (b) (e) and (i) .....	4,299
Certified as physically defective, Section 5 (c) .....	18,660
Re-examinations .....	31,623
<i>British Isles:</i>	
Prospective emigrants medically examined .....	74,529
<i>Continent of Europe:</i>	
Prospective emigrants medically examined .....	133,487
<i>Orient:</i>	
Prospective emigrants medically examined .....	3,966

## ALL OTHER COUNTRIES:

Medically prescreened at Ottawa .....	29,969
Certified as "prohibited" under Immigration Act, Section 5 (a) and (b) ....	415
Certified as physically defective, Section 5 (c) .....	3,545
Re-examinations .....	1,635

TABLE 31  
IMMIGRATION MEDICAL EXAMINATIONS IN CANADA  
1957-58

Location	Immigrants	Non-Immigrants
Gander, Nfld. ....	3,496	570
St. John's, Nfld. ....	442	210
Halifax, N.S. ....	34,326	1,329
Sydney, N.S. ....	29	3
Saint John, N.B. ....	3,276	458
Montreal, P.Q. ....	2,318	773
Quebec, P.Q. ....	81,037	14,192
Dorval, P.Q. ....	37,211	15,323
Malton Airport, Ont. ....	26,308	3,021
Toronto, Ont. ....	1,542	3
Fort Erie and out-ports, Ont. ....	9,993	953
Niagara Falls and out-ports, Ont. ....	6,392	678
Vancouver, B.C. ....	3,140	661
Vancouver Airport, B.C. ....	7,827	2,737
Victoria, B.C. ....	226	91
Others .....	23,384	2,069
Totals .....	240,947	43,071

TABLE 32  
CASES PRE-SCREENED AT OTTAWA SHOWING COUNTRY OF ORIGIN  
Fiscal Year 1957-58

Country	Examined	Passed	Furthered	Certified—Section 5			Total Certified
				(a)	(b)	(c)	
Algeria.....	706	572	62	.....	6	66	72
Argentina.....	939	742	41	1	15	140	156
Australia.....	2,906	2,510	83	5	11	297	313
Azores.....	1,289	1,175	46	.....	5	63	68
Bermuda.....	87	70	12	.....	1	4	5
Bolivia.....	11	8	.....	.....	.....	3	3
Brazil.....	689	522	59	.....	25	83	108
British Guiana.....	263	216	25	1	2	19	22
British West Indies.....	1,640	1,429	97	2	11	101	114
Bulgaria.....	21	11	.....	.....	1	9	10
Canada.....	6,859	5,611	430	10	42	766	818
Central Africa.....	79	68	3	.....	.....	8	8
Central America.....	17	16	.....	.....	.....	1	1
Ceylon.....	31	28	.....	.....	2	1	3
Chile.....	79	67	3	.....	3	6	9
China.....	15	11	3	.....	.....	1	1
Colombia.....	61	56	.....	.....	1	4	5
Cyprus.....	53	45	.....	.....	1	7	8
Czechoslovakia.....	80	57	4	1	1	17	19
Dutch Guiana.....	2	2	.....	.....	.....	.....	.....
Dutch West Indies.....	36	36	.....	.....	.....	.....	.....
Ecuador.....	29	24	.....	.....	5	5	5
Egypt.....	144	108	9	.....	.....	22	27
Fiji Islands.....	10	9	.....	.....	1	1	1
Gibraltar.....	6	4	1	.....	1	1	1
Hungary.....	1,954	1,493	60	.....	33	368	401
Iceland.....	91	79	9	.....	.....	3	3
Indo-China.....	1	1	.....	.....	.....	.....	.....
Indonesia.....	35	34	.....	.....	.....	1	1
Iraq.....	5	5	.....	.....	.....	.....	.....
Israel.....	404	356	27	.....	13	68	81

Japan.....	346	261	20		10	55	65
Jordan.....	3	3					
Korea.....	7	5	1		1		1
Lebanon.....	497	442	11		6	37	44
Madeira.....	143	124	7	1	1	11	12
Malaya.....	68	56	7			5	5
Malta.....	10	8	1			1	1
Mauritius.....	3	3					
Mexico.....	52	41	6		4		5
Morocco.....	1,030	872	57		11	90	101
New Zealand.....	684	567	28	2	4	83	89
Paraguay.....	595	459	23	2	19	92	113
Peru.....	50	44	1		1	4	5
Philippines.....	31	27	1		2	1	3
Poland.....	1,253	814	68	1	42	328	371
Roumania.....	289	181	13	2	7	86	95
Russia.....	565	339	74	3	13	136	152
South Africa.....	565	485	26	3	2	49	54
Spain.....	380	301	20		15	44	59
Syria.....	8	8					
Tunisia.....	157	132	11		2	12	14
Turkey.....	234	188	20		4	22	26
Uruguay.....	57	45	4		2	6	8
United States.....	2,880	2,378	181	4	17	300	321
Venezuela.....	362	320	16		5	21	26
West Indies Group.....	54	49	2			3	3
Yugoslavia.....	1,044	857	63		31	93	124
Total.....	29,969	24,374	1,635	38	377	3,545	3,960



TABLE 33  
DETAILS OF EXAMINATIONS  
EXAMINATIONS OVERSEAS

	Examinations	Re-examinations
By Canadian Medical Officers in British Isles .....	61,105	8,669
By Roster Doctors in British Isles .....	13,424	1,727
By Canadian Medical Officers on the Continent .....	127,365	20,258
By Roster Doctors on the Continent .....	6,122	816
By Roster Doctors in the Orient .....	3,966	153
Total—1957-58 .....	211,982	31,623
Total—1956-57 .....	337,784	41,553
<b>BRITISH ISLES:</b>		
<i>By Canadian Medical Officers</i>		
Belfast .....	3,136	760
Bristol .....	3,364	297
Glasgow .....	10,986	2,389
Leeds .....	2,329	322
Liverpool .....	10,841	1,880
London .....	30,449	3,021
<i>By Roster Doctors</i>		
Belfast Area .....	91	6
Bristol Area .....	940	66
Dublin Area .....	3,466	656
Eire .....	724	66
Glasgow Area .....	1,608	256
Leeds Area .....	629	65
Liverpool Area .....	2,646	265
London Area .....	3,320	347
<b>CONTINENT:</b>		
<i>By Canadian Medical Officers</i>		
Athens .....	7,268	888
Berlin .....	3,662	729
Brussels .....	4,905	1,009
Cologne .....	15,567	2,663
Copenhagen .....	6,182	533
Hamburg .....	5,012	1,016
Helsinki .....	4,875	214
Malta .....	847	.....
Munich .....	4,093	761
Paris .....	7,595	1,260
Portugal and Azores .....	4,076	80
Rome .....	28,303	6,699
Spain .....	521	40
Stockholm .....	99	.....
Stuttgart .....	6,411	1,275
The Hague .....	13,001	1,300
Vienna .....	13,821	1,791
Yugoslavia .....	1,127	.....
<i>By Roster Doctors</i>		
France .....	12	1
Malta .....	273	123
Norway .....	1,270	196
Portugal .....	747	131
Sweden .....	1,457	124
Switzerland .....	2,363	241
<b>ORIENT:</b>		
<i>By Roster Doctors</i>		
Hong Kong .....	3,531	129
India .....	327	24
Pakistan .....	108	.....
Total .....	211,982	31,623

TABLE 34  
(Immigration Medical Service)  
CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT  
Fiscal Year 1957-58

	Canada Ocean and Airports	British Isles		Continent of Europe		Orient Examined by Roster Drs.	Canada Prescreened at Ottawa	Total
		Examined by Can. M.Os.	Examined by Roster Drs.	Examined by Can. M.Os.	Examined by Roster Drs.			
Certified under:								
SS (a) Mental Diseases and Defects.....	45	160	29	371	10	2	38	655
SS (b) Chronic Infectious Diseases.....	264	611	158	2,354	70	530	377	4,364
SS (c) Physical Defects.....	1,863	5,543	1,546	10,757	497	317	3,545	24,068
SS (e) Prostitutes, etc.....				1				1
SS (i) Chronic Alcoholism.....			2	1				3
SS (s) Other Mental or Physical Impairments.....	1							1
Total.....	2,173	6,314	1,735	13,484	577	849	3,960	29,092

### **Sick Mariners Service**

The Sick Mariners Service has operated since Confederation and thus has the distinction of being Canada's first prepaid medical-surgical-hospital-treatment plan. The federal government by agreement with the provinces and under the authority of the British North America Act took over responsibility for operating such a service at the time of Confederation. The plan operated provincially prior to this, having been devised to prevent foreign seamen arriving at Canadian ports from becoming public charges when in need of medical or surgical treatment, by imposing a levy on shipping originally calculated to cover treatment costs.

This Service operates under authority of Part V of the Canada Shipping Act providing free medical, surgical and hospital care to crew members employed on vessels paying Sick Mariners Dues and covers all conditions, except permanent insanity, for periods up to one year. The Act also provides for the collection by local collectors of customs of tonnage duties known as Sick Mariners Dues. This duty is collected from vessels arriving at ports in the Provinces of Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, Quebec, British Columbia, and those parts of Ontario and Manitoba which border on Hudson and James Bays. Payment is compulsory for all vessels arriving from foreign ports and from vessels which have made at least one voyage during the year between the provinces mentioned above. The payment of dues by fishing vessels, however, is on a voluntary basis and the vessel so paying must be of Canadian registry, employed exclusively in fishing and must make the initial payment of dues prior to the first fishing voyage in a calendar year. The rate of dues, applicable to all and fixed by the Act, is 2 cents per net registered ton, payable each time a vessel enters port, but not more than 3 times in a calendar year. The minimum payment is 2 dollars. The maximum amount paid by a vessel in 1957 was \$1,669.16 which was collected in 2 instalments from the Cunard liner *Queen Elizabeth*.

Methods as simple as possible have been devised to enable a seaman to secure treatment. He merely applies to the captain of his ship, who completes a concise form showing certain particulars concerning the applicant and his ship. The application form is then signed by both the applicant and the captain of the ship and presented to the local collector of customs, who verifies the facts as stated, endorses the form and refers the sick or injured crew member to the nearest port physician. In cases of accident or emergency, the seaman may be referred directly to the nearest hospital designated for the treatment of sick mariners and the port physician notified.

Sick mariners clinics, staffed by medical officers of the department, are in operation at Sydney and Halifax, N.S., Saint John, N.B., Quebec and Montreal, P.Q., and Vancouver, B.C.

Port physicians employed on a part-time salary basis provide treatment at St. John's, Nfld.; Lunenburg, North Sydney, Liverpool, Pictou and Digby in Nova Scotia; Shippigan, and Tracadie in New Brunswick; Port Alfred and Gaspé in Quebec; and at Victoria, Port Alberni and Powell River in British Columbia. In various other ports treatment is provided by designated physicians paid on a fee-for-service basis. At Sydney, N.S., Indians from the various reserves of the Eskasoni Indian Agency are treated by the staff of the Sick Mariners Service.

The total number of hospitals in Canada authorized or appointed to treat sick mariners during the year was 170, and the number of port physicians, consultants and specialists employed was 780.

Total dues collected during the calendar year 1956 were \$369,804.79, and the total cost of treatment for crews of vessels paying these dues amounted to \$924,548.57. A total of 34,507 seamen received treatment for 53,076 diseases or injuries. Of this number, 2,945 seamen were admitted to hospitals. The total number of crew members on vessels paying Sick Mariners Dues was 129,934. Pulmonary tuberculosis cases discovered and treated amounted to 18, for an unadjusted rate of 14 per 100,000 persons. Tables relating to this Service follow.

TABLE 35

(Sick Mariners Service)

## STATEMENT OF DISEASES AND INJURIES TREATED

During the Fiscal Year 1957-58

*Cases Treated*

Tuberculosis of respiratory system	18
Syphilis and its sequelae	189
Gonococcal infection	3,236
Infective diseases commonly arising in intestinal tract	140
Certain diseases common among children	
Scarlet fever	2
Measles	12
Mumps	28
Malaria	1
All other diseases classified as infective and parasitic	213
Malignant neoplasm, including neoplasm of lymphatic and haematopoietic tissues	85
Benign neoplasms and neoplasms of unspecified nature	521
Allergic disorders	1,088
Diabetes mellitus	182
Diseases of thyroid gland	501
Avitaminosis and other deficiency states	118
Anaemias	2,806
Psychoneuroses and psychoses	1,605
Vascular lesions affecting central nervous system	185
Diseases of eye	808
Diseases of ear and mastoid process	1,218
Rheumatic fever	106
Chronic rheumatic heart disease	118
Arteriosclerotic and degenerative heart disease	616
Hypertensive disease	843
Diseases of veins	2,091
Acute nasopharyngitis (common cold)	5,001
Acute pharyngitis and tonsillitis and hypertrophy of tonsils and adenoids	1,380
Influenza	5,280
Pneumonia	709
Bronchitis	2,081
All other respiratory diseases	2,003
Diseases of stomach and duodenum, except cancer	2,959
Appendicitis	299
Hernia of abdominal cavity	1,002
Diarrhoea and enteritis	576
Diseases of gallbladder and bile ducts	639
Other diseases of digestive system	4,150
Nephritis and nephrosis	529
Diseases of male genital organs	985

TABLE 35 (Concluded)

	Cases Treated
Complications of pregnancy, childbirth and puerperium .....	4
Boil, abscess, cellulitis and other skin infections .....	1,376
Other diseases of skin .....	1,207
Arthritis and rheumatism, except rheumatic fever .....	1,008
Diseases of bones and other organs of movement .....	99
Other specified and ill-defined diseases .....	376
Accidents, poisonings and violence (external cause) .....	1,008
Occupational accidents and occupational poisonings .....	3,052
Accidents and poisonings not specified as occupational .....	623
	<hr/> 53,076

TABLE 36

(Sick Mariners Service)

REVENUE, EXPENDITURE AND DEFICIT CLASSIFIED ACCORDING TO  
TYPE OF VESSEL

Calendar Year 1957

Classification of Vessel	Revenue	Expenditure	Deficit	Deficit Expressed as Percentage of Revenue
Foreign-going .....	\$353,887.91	\$451,618.12	\$ 97,730.21	25%
Coasting .....	3,356.88	34,505.65	31,148.77	928%
Fishing .....	12,560.00	436,395.04	423,835.04	3,367%
Additional expenditure not classified as to type of vessel .....		2,029.76	2,029.76	.....
Totals .....	\$369,804.79	\$924,548.57	\$554,743.78	150%

Government

(not paying S.M. Dues)

Treatment provided under

authority of P.C. 1955-4/483

T.B. 484135.....\$ 90,323.62



# WELFARE BRANCH

## INTRODUCTION

The year 1957-58 saw many significant changes in legislation that affected the Welfare Branch. The Family Allowances Act was amended to provide for an increase in certain rates and there were new scales of payment and changes in the residence requirements for old age security, old age assistance, blind persons allowances, and disabled persons allowances. The Unemployment Assistance Act was amended to provide that the federal share of 50 per cent of unemployment assistance costs would apply to all assistance given by a province or municipality rather than to assistance given when the number of persons in receipt of assistance exceeded .45 per cent of the population of the province.

The Departmental Consultant on Fitness and Recreation provided, on request, consultation services and information relative to fitness, recreation, community centres and related subjects. The Canadian Physical Efficiency Tests, developed to provide a practical means whereby individual basic physical efficiency could be assessed with due regard to age, sex, and physique, were conducted in several provinces, in co-operation with provincial and municipal authorities, with generous contributions of professional and volunteer assistance both at the provincial and community levels. In view of the progress made, it is hoped that the testing project will be completed and standards developed during 1959. Several series of Progressive Power Exercises were designed on a graded basis to provide specific guidance for individuals desiring to improve their physical efficiency to meet their needs.

The Excise Tax Act provides for a refund of sales tax for certain public institutions that are devoted to the care of children or aged, infirm or incapacitated persons, when the institution is certified by the Minister of National Health and Welfare as meeting the requirements of the Act. During the fiscal year there were 14 institutions certified, bringing the total number of certified institutions to 443.

At the request of the Secretary of State, the Welfare Branch examined applications for welfare, recreation and sports organizations for incorporation under the Federal Companies Act.

The Deputy Minister of Welfare was a member of the Canadian delegation in attendance at the United Nations Economic and Social Council held in Geneva in July and August 1957.

The main Welfare Branch expenditures were:

	<i>Administration</i>	<i>Net Federal Payments</i>
Welfare Branch	\$ 46,313	
Unemployment Assistance		\$ 8,233,125
Family Allowances	2,898,891	437,886,560
Old Age Security		473,859,104
Old Age Assistance	104,945	24,961,383
Blind Persons Allowances		3,575,724
Disabled Persons Allowances		11,091,664

## **FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION**

Among the most important events of the past year, insofar as the Family Allowances and Old Age Security programs were concerned, were the changes which were made in rates of payment. There was one increase in the rates of Family Allowances, effective September 1957. The amount payable for children from birth to 6 years of age was raised from \$5 to \$6 per month, and that for children from 10 to 13 years of age from \$7 to \$8 per month. This means that there are now only 2 rates of payment, \$6 monthly for children from birth to age 10, and \$8 monthly for children from age 10 to age 16. Two changes took place in the rate of the Old Age Security pension. Effective July 1957, the pension was increased from \$40 to \$46 monthly, and effective November 1957, it was increased from \$46 to \$55 monthly.

In addition to these changes in rates, there were certain other amendments made to the Old Age Security Act and Regulations, effective November 1, 1957. The length of residence in Canada required in order to establish eligibility for the pension was reduced from 20 to 10 years. In line with this, where formerly the Regulations had stipulated that temporary absences from Canada during the 20-year residence period which did not exceed, in total, 1,200 days, would be considered not to have interrupted the residence in Canada, they were amended to reduce the total permissible temporary absences to 600 days. A further amendment to the Act concerned the periods of absence from Canada for which a pensioner can be paid his pension. Formerly, when a recipient of the pension was absent from Canada, and returned within 6 months of the time he had left, the pension, on being resumed, could be paid for a period of the absence not exceeding 3 months in any calendar year. The amendment provided that, on being resumed, the pension could be paid for a period not exceeding 6 months in any calendar year.

As in other years, the year 1957-58 brought further expansion in both Family Allowances and Old Age Security pensions. There was an increase of 79,707 in the number of active Family Allowances accounts maintained at March 31, 1958, which was 2,418,910 over the number maintained at March 31, 1957, which was 2,339,203. This increase was considerably greater than that reported for March 1957 over March 1956. The number of active Old Age Security accounts maintained at the end of the year was 836,048, as compared with 806,529 at the end of 1956-57, an increase of 29,519. This increase was also greater than that reported for March 1957 over March 1956. With regard to Old Age Security accounts, while there were 836,048 active accounts in March 1958, pensions were paid to only 827,560 persons. The difference resulted from the fact that a number of pensioners were out of Canada at that time, with resumption of payment awaiting their return, and that, in the case of pensioners who had died during the month concerned, their accounts remained active pending decisions with regard to payment for the final month.

### **Staff and Accommodation**

Employees on the staff of the Division numbered 848 at March 31, 1958, as compared with 847 at March 31, 1957. The turn-over in staff decreased somewhat during the year, but was still rather substantial in certain regional offices.

Insofar as this Division was concerned, there was some lessening in the shortage of professional social workers. While there were 6 junior social worker positions vacant at the end of 1956-57, there were only 2 such vacancies at the end of 1957-58.

The Alberta Regional Office moved from its former location to the new Federal Building in Edmonton. It is expected that the Nova Scotia Regional Office will move to new quarters early in 1958-59.

### **Costs of Administration**

The following is a comparison between the costs of administering the Family Allowances and Old Age Security programs in the fiscal years 1956-57 and 1957-58:

	Dept. of National Health and Welfare	Dept. of Finance (Treasury)	Dept. of Public Works	Total
1956-57	\$2,727,169.00	\$3,753,550.04	\$343,511.29	\$6,824,230.33
1957-58	2,898,891.29	4,082,834.18	348,008.84	7,329,734.31

The total cost of administering the 2 programs in the past year was .80 per cent of the total expenditures of Family Allowances and Old Age Security.

It should be noted that of \$4,082,834.18 Finance (Treasury) costs, \$1,847,227.14 were expended for postage on cheques. This amounts to 45 per cent of the total Treasury costs.

### **Welfare Services**

During the year the Division was successful, as was indicated above, in recruiting several social workers. The overall position was thereby strengthened. There remain, however, one or two key vacancies which must be filled. Every effort is being made in this regard.

The recruitment of more professionally trained staff has enabled the welfare sections in regional offices to provide more adequate field service. It has also meant that close contact with agencies and institutions handling Family Allowances and Old Age Security can be maintained.

In the past year a good deal of attention has been given to the improvement of accounting and reporting to the Division by child placing agencies. It is the policy of the Division to encourage agencies to keep accurate accounts in respect of Family Allowances received and spent. This is done not only to enable this administration to obtain information, but also for the protection of the agencies themselves.

In the field of Old Age Security, the welfare sections have continued to expand their program of close liaison with institutions offering care to older people. This type of contact is beneficial not only to the department but to the pensioners and the institutions.

### **Family Allowances**

#### **Payments**

The increases in the numbers of families and children receiving allowances and in the expenditures in March 1958, over those in March 1957, are shown in the following table:

	No. of Families	No. of Children	Expenditures
March 1958	2,406,734	5,796,380	\$38,697,160
March 1957	2,326,891	5,571,436	33,717,024
Increase	79,843	224,944	\$ 4,980,136

Total net payments for the fiscal year 1957-58 were \$437,886,560 an increase of \$40,368,720 over those for the fiscal year 1956-57. Tables 37 and 38 appended hereto give additional details regarding payments of allowances.

In reporting on the operations of the Division for the year 1956-57, a comparison was made, as a matter of interest, between the numbers of families and children and the amounts paid in the 2 most heavily populated provinces, Ontario and Quebec. In March 1957, the numbers of families and children paid were larger in Ontario, but the amount paid was slightly less. In March 1958, the amount paid, as well as the numbers of families and children, was larger in Ontario.

### *Overpayments*

There was a slight increase in the total amount of overpayments outstanding at the end of the year as compared with the amount at the end of the previous year. The amount outstanding at March 31, 1957 was \$177,423.90, and that at March 31, 1958 was \$185,596.76. This increase of approximately \$8,000 was very small, considering that during the year 1957-58, more than \$438 million were paid out in Family Allowances.

The total amount listed as outstanding at the end of any year is the balance of all overpayments established since the beginning of payment of Family Allowances in 1945 minus the collections which have been made and certain lesser amounts deleted by the authority of Treasury Board as being uncollectable. Table 39 appended hereto shows a breakdown by category of the overpayments outstanding at March 31, 1958.

### *School Attendance and Employment*

The number of children who lost Family Allowances for one month or more during 1957-58, because of non-attendance at school was 8,769. The number for the previous year was 9,953. There was, therefore, a decrease of 1,184. Reporting of absences by educational authorities continued to improve during the past year, and the school population continued to grow. It is evident, then, that average school attendance improved. It can safely be said that the Family Allowances program has been an important factor in the improvement in average attendance. Every indication has pointed to this since the inception of Family Allowances. It might be noted that, during the course of the year, allowances were re-instated on behalf of 5,556 children because they resumed attendance at school.

There was also a drop in the number of children who lost allowances for one month or more during the past year because of being employed. The number was 19,898, as compared with 22,497 in the year 1956-57. There were no doubt various factors responsible for the decrease from the number for the earlier year.

### *Old Age Security*

#### *Payments*

Total net payments of pensions for March 1958, amounted to \$45,580,287, as compared with \$31,910,703 for March 1957, an increase of \$13,669,584. The major part of the increase in expenditures resulted from the fact that the rate payable was \$55 per month in March 1958, whereas it was \$40 in March 1957. The increase also resulted from the normal increase in the number of pensioners receiving payment, from 797,486 in March 1957, to 827,560 in March 1958. The total net payments for the year 1957-58 were \$473,859,103. Table 40 appended hereto gives further details regarding payment of Old Age Security pensions.



*Overpayments*

Gross payments of Old Age Security pensions for the past fiscal year amounted to more than \$475 million. This figure, which covers payments for one year only, will give some indication of the billions of dollars paid since Old Age Security pensions began, in January 1952. Certain of these payments made to pensioners had subsequently to be considered as being overpaid, largely because some pensioners were absent from Canada, and thus were ineligible for some months. The amount outstanding as overpaid at the end of March 1958, out of all the payments made since January 1952, was only \$37,993, a few hundred dollars more than at the end of March 1957.

*Proof of Age*

As was the case in the year 1956-57, difficulties encountered with regard to proof of age of applicants for pension became fewer in the past year. It was possible for a large number of applicants to supply birth or baptismal certificates, which are considered the best evidence. In many other cases, evidence of other kinds was found acceptable where it was not possible to obtain birth or baptismal records. As in other years, there were cases, though these were fewer than in the past, where it was necessary to arrange for tribunals to consider the age of applicants for Old Age Security purposes. Tribunals were convened in 453 cases. The results were favourable to the applicants in 277 of these and in 176, unfavourable.

During the past year, apart from the increase in work brought about by the regular expansion of the Family Allowances and Old Age Security programs, a good deal of extra work was caused by the changes in rates of payment, one in the case of Family Allowances and two in the case of Old Age Security. The major part of this additional work was done by the Chief Treasury Officer and his staff, with assistance from the staff of this Division where requested. This administration was called upon to reply to numerous enquiries regarding new rates. In addition, it was necessary, in the case of Old Age Security, to handle many enquiries regarding the amendments to the legislation in respect to residence requirements and absences from Canada. Printed material had to be amended and policy instructions revised. It was also necessary to process, when the legislation was amended, applications from persons who became eligible on the basis of residence earlier than they would have done under the former legislation. The extra burden, as well as the normal volume of work, was handled without delay or confusion, due mainly to the excellent co-operation shown by the Chief Treasury Officer and his staff as well as by the staff of this Division.



TABLE 37  
DEPARTMENT OF NATIONAL HEALTH AND WELFARE  
COMPARATIVE STATEMENT OF FAMILY ALLOWANCES PAYMENTS  
BETWEEN MONTH OF MARCH 1957 AND MONTH OF MARCH 1958

Province	Month of March 1957					Month of March 1958				
	Families Receiving		Children Receiving		Amount Paid	Families Receiving		Children Receiving		Amount Paid
	Number	Average Allow. per Family	Number	Average Allow. per Child		Number	Average Allow. per Family	Number	Average Allow. per Child	
Newfoundland .....	59,572	\$ 18 31	181,237	\$ 6 02	\$ 1,090,622	60,961	\$ 20 40	187,035	\$ 6 65	\$ 1,243,365
Prince Edward Island .....	13,067	16 86	36,173	6 09	220,308	13,240	18 61	36,839	6 69	246,396
Nova Scotia .....	99,957	15 13	248,827	6 08	1,512,660	101,509	16 71	253,713	6 68	1,696,162
New Brunswick .....	77,833	17 05	218,703	6 07	1,327,089	79,237	18 89	224,047	6 68	1,496,813
Quebec .....	642,573	16 39	1,729,386	6 09	10,531,050	664,852	18 02	1,786,800	6 70	11,978,553
Ontario .....	800,279	13 05	1,734,813	6 02	10,445,908	833,495	14 59	1,825,274	6 66	12,164,669
Manitoba .....	122,386	13 65	276,912	6 03	1,670,404	124,257	15 22	283,863	6 66	1,890,961
Saskatchewan .....	126,271	14 31	298,085	6 06	1,806,827	127,904	15 89	306,045	6 64	2,032,132
Alberta .....	172,533	13 76	395,234	6 00	2,373,740	179,237	15 36	414,550	6 64	2,753,938
British Columbia .....	207,626	12 86	440,749	6 06	2,671,296	217,009	14 35	466,169	6 68	3,114,279
Northwest Territories and Yukon .....	4,794	14 00	11,317	5 93	67,120	5,033	15 87	12,045	6 63	79,892
NATIONAL .....	2,326,891	14 49	5,571,436	6 05	33,717,024	2,406,734	16 08	5,796,380	6 68	38,697,160

TABLE 38  
DEPARTMENT OF NATIONAL HEALTH AND WELFARE  
NET FAMILY ALLOWANCES PAYMENTS—COMPARISON BY FISCAL YEARS

Province	1946-47		1947-48		1948-49		1949-50		1950-51		1951-52	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Newfoundland	2,192,044	00	2,256,477	00	2,295,286	00	9,747,030	00	10,224,103	00	10,613,908	00
Prince Edward Island	13,358,417	07	14,207,957	82	14,515,131	00	2,411,291	00	2,467,257	00	2,495,987	00
Nova Scotia	11,394,426	02	12,086,891	93	12,462,093	00	15,291,614	07	15,660,003	27	15,949,540	73
New Brunswick	82,389,966	72	87,157,243	46	89,304,108	45	13,375,434	33	13,088,198	00	13,892,907	00
Quebec	70,325,914	70	77,328,534	50	80,151,249	69	95,901,763	15	99,558,247	04	102,883,811	56
Ontario	14,007,061	21	14,798,436	82	15,016,277	72	84,940,808	63	89,034,870	53	93,207,144	30
Manitoba	18,119,791	87	18,561,329	55	18,527,408	22	15,668,695	50	16,235,519	56	16,703,466	69
Saskatchewan	17,159,488	00	18,181,662	50	18,695,325	00	18,953,599	79	19,237,070	80	19,424,561	76
Alberta	15,722,045	50	18,012,188	75	19,347,836	38	19,822,386	97	20,762,273	29	21,573,429	99
British Columbia	471,376	50	574,470	00	595,063	00	20,813,661	00	21,952,569	36	23,063,642	85
Yukon and N.W.T.							587,749	50	625,348	67	649,273	15
NATIONAL	245,140,531	59	263,165,192	33	270,909,778	66	297,514,033	94	309,465,460	52	320,457,673	03

	1952-53		1953-54		1954-55		1955-56		1956-57		1957-58	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Newfoundland	11,038,874	49	11,497,719	33	11,967,775	00	12,414,789	00	12,881,415	00	14,131,153	26
Prince Edward Island	2,522,830	00	2,558,097	00	2,590,704	00	2,621,722	00	2,640,585	00	2,824,310	34
Nova Scotia	16,297,169	95	16,716,374	00	17,147,920	00	17,596,684	40	17,973,392	00	19,400,493	32
New Brunswick	14,287,535	05	14,700,819	00	15,073,324	00	15,451,544	00	15,779,360	00	17,074,970	00
Quebec	107,084,124	36	111,441,301	49	116,057,182	00	120,389,837	92	124,368,344	00	136,080,634	08
Ontario	98,303,868	20	104,409,819	41	110,492,480	00	116,604,314	27	122,539,123	00	136,706,313	83
Manitoba	17,283,659	61	17,979,853	88	18,705,349	00	19,418,713	24	19,888,717	00	21,520,778	50
Saskatchewan	19,723,352	42	20,244,540	00	20,894,790	00	21,401,114	00	21,644,971	00	23,241,829	00
Alberta	22,575,383	60	23,938,080	50	25,390,585	00	26,752,093	00	27,953,311	00	31,029,720	19
British Columbia	24,399,858	81	25,904,496	28	27,405,872	00	29,097,077	14	31,029,472	00	34,969,036	05
Yukon and N.W.T.	680,828	30	702,801	30	739,983	00	786,437	15	819,150	00	907,321	25
NATIONAL	334,197,684	79	350,113,902	19	366,465,964	00	382,535,026	12	397,517,840	00	437,886,559	82

TABLE 39  
OVERPAYMENTS OF FAMILY ALLOWANCES

March 1958

(The overpayments may have occurred at any time between July 1, 1945 and March 31, 1958)

Province	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments Considered Uncollectable		Total Overpayments Outstanding	
	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.
Newfoundland.....	25	841 00	25	840 73	36	833 50	86	2,515 23
Prince Edward Island.....	27	531 00	4	120 00	5	131 50	36	782 50
Nova Scotia.....	65	1,656 00	103	2,719 00	85	2,394 25	253	6,769 25
New Brunswick.....	21	323 00	65	1,280 00	111	4,552 00	197	6,155 00
Quebec.....	352	18,404 05	628	32,503 95	702	44,491 02	1,682	95,399 02
Ontario.....	175	8,302 00	559	14,293 98	553	14,137 36	1,287	36,733 34
Manitoba.....	26	615 00	58	903 00	66	2,490 00	150	4,008 00
Saskatchewan.....	61	2,460 00	74	3,806 00	62	3,684 00	197	9,950 00
Alberta.....	61	1,576 00	117	2,883 00	116	3,831 69	294	8,290 69
British Columbia.....	86	3,109 00	114	3,814 41	116	3,979 32	316	10,902 73
Yukon and N.W.T.....	39	1,358 00	73	2,270 00	7	463 00	119	4,091 00
NATIONAL.....	938	39,175 05	1,820	65,434 07	1,859	80,987 64	4,617	*185,596 76

\* In addition to this amount outstanding, there has been deleted as uncollectable by Treasury Board authority between July 1945 and March 31 1958, a gross amount of \$105,127.71.

TABLE 40  
STATISTICS ON OLD AGE SECURITY

Province	Number of Pensioners in Pay March 1957	Net Payment for March 1957 only	Number of Pensioners in Pay March 1958	Net Payment for March 1958 only	Total Net Payment for Fiscal Year Ended March 31, 1957	Total Net Payment for Fiscal Year Ended March 31, 1958
Newfoundland.....	16,248	\$ 647,589	16,557	\$ 911,046	\$ 7,738,205	\$ 9,880,757
Prince Edward Island.....	6,993	280,770	7,100	394,520	3,371,370	3,749,648
Nova Scotia.....	38,860	1,567,071	39,694	2,214,893	18,706,153	23,008,418
New Brunswick.....	28,170	1,129,912	28,956	1,616,698	13,528,005	16,747,674
Quebec.....	168,407	6,709,157	174,476	9,655,371	79,650,588	99,490,164
Ontario.....	291,493	11,634,495	301,183	16,589,597	138,792,796	172,804,152
Manitoba.....	47,908	1,920,144	50,079	2,771,745	22,842,472	28,562,399
Saskatchewan.....	48,984	1,971,771	51,300	2,851,491	23,334,799	29,420,360
Alberta.....	50,524	2,030,276	53,319	2,972,021	23,942,472	30,443,217
British Columbia.....	99,320	3,994,133	104,297	5,808,930	46,923,834	59,408,009
Yukon and N.W.T.....	579	25,385	599	33,095	280,680	344,305
NATIONAL.....	797,486	31,910,703	827,560	45,819,407	379,111,374	473,859,103

## OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS

### *Old Age Assistance*

The Old Age Assistance Act has been in operation since January 1, 1952, in all provinces, except Newfoundland, and in the Northwest Territories. It came into operation in Newfoundland and the Yukon Territory 3 months later on April 1, 1952. The federal share of payments made by the provinces and territories under the Act up to March 31, 1958, was \$128,842,028.

There has been little variation from year to year in the number of recipients, the highest number being 94,625 at the end of the fiscal year 1954-55. As at March 31, 1958, there were 92,484. This number was higher than at the end of the previous fiscal year but not quite as high as at the end of the 3 fiscal years 1953-54 to 1955-56. Recipients represent about 20 per cent of the total population 65 to 69 years of age.

Being a temporary measure, old age assistance is naturally affected by the operations under other welfare plans, particularly old age security. The number of transfers in each of the last 3 fiscal years was about 22,000. Up to March 31, 1958, a total of 120,012 recipients of old age assistance had been transferred to the administration of the Old Age Security Act.

During 1957-58 the Act was amended twice, the first amendment being effective from July 1, 1957, and the second, from November 1, 1957. Both amendments increased the maximum assistance and the maximum amounts of income allowed. From July 1, 1957, the maximum assistance was increased from \$40 to \$46 a month. The increase effective November 1, 1957, was from \$46 to \$55 a month.

The maximum amounts of income allowed by the original Act were \$720 a year in the case of an unmarried person, \$1,200 in the case of a married person and \$1,320 where the spouse was blind, all amounts being inclusive of assistance. The amendments to the Act increased these first to \$840, \$1,380 and \$1,740 and then to \$960, \$1,620 and \$1,980.

The Act was further amended as from November 1, 1957, to reduce the required period of residence in Canada from 20 to 10 years.

The 2 separate amendments to the Old Age Assistance Act in 1957 naturally caused a substantial increase in federal expenditure. For 1956-57 the federal expenditure was \$20,399,104. For 1957-58 it was \$24,961,383.

The plan for providing old age assistance operates under agreements between the Government of Canada and the governments of the provinces and territories. Amendments to the federal Act generally require amendments to the agreements. Following the amendments of 1957 the agreements were amended twice. As they stand now all provinces and the two territories are paying the maximum assistance of \$55 a month. Their agreements also allow the maximum amounts of income specified in the Act as amended and authorize payment as from the age of 65 years.

Most of the administrative procedures are set forth in the Old Age Assistance Regulations made by the Governor-in-Council. The regulations are largely based on recommendations of an Advisory Board appointed under the authority of the Act by the Governor-in-Council and consisting of representatives of the provinces



and territories and of the federal government. In 1957 there were several amendments which referred mainly to matters in connection with the calculation of income. There were a few further amendments following the amendments to the Act reducing residence in Canada to 10 years.

Old age assistance is intended to provide for persons over the age of 65 who are in need until such time as they reach the age of 70 and qualify for old age security. The steady flow of transfers to old age security naturally tends to hold down the number of recipients. The availability of other forms of social aid as well as general economic and employment conditions must also have an effect on the number of persons making application. The number of applicants has not varied greatly from year to year. However, probably due to the amendments to the Act in 1957, the number of applicants increased to 33,118 for 1957-58 from 29,060 for 1956-57. Additional statistics appear in the tables at the end of the report on this Division.

### ***Allowances for Blind Persons***

Allowances under the Blind Persons Act have been paid in all the provinces and in the Northwest Territories since January 1, 1952, and in the Yukon Territory from April 1, 1952. The Act was amended in 1955 to reduce the age at which an applicant could qualify from 21 to 18 years and to increase the amounts of income allowed. Originally these had been \$840 a year in the case of an unmarried person (\$1,040 where there was a dependent child), \$1,320 a year in the case of a married person and \$1,440 where the spouse was blind. The amending Act of 1955 increased the amounts to \$960, \$1,160, \$1,560 and \$1,680.

The Act was amended twice in 1957, both amendments dealing only with the maximum allowance payable and the maximum amounts of income allowed. The first amendment, effective July 1, 1957, increased the maximum allowance from \$40 to \$46 a month. At the same time the maximum amounts of income allowed were raised from the figures established by the amending Act of 1955 to \$1,080, \$1,560, \$1,740 and \$1,860.

Later in the year 1957 further amendments effective November 1, 1957, increased the maximum allowance from \$46 to \$55 a month and the maximum amounts of income allowed to \$1,200, \$1,680, \$1,980 and \$2,100.

The amendments to the Act naturally increased federal expenditure. For 1956-57 federal expenditure for blindness allowances (the federal share is 75 per cent) was \$2,959,525. For 1957-58 it was \$3,575,724. However, there was little variation in the number of recipients, 8,256 at the close of the fiscal year 1956-57 and 8,400 at March 31, 1958. Actually there has been little change in the number of recipients since the Act came into operation on January 1, 1952. This is partly due to transfers to old age security. Up to March 31, 1958, the total number transferred was 2,310. Since the Act came into operation federal payments to the provinces have amounted to \$18,960,696.

Being a federal-provincial plan, the payment of the federal share of blindness allowances is dependent upon agreements between Canada and the provinces. These may be subject to amendment when the federal Act is changed. The amendments to the Act in 1957 resulted in two new agreements being completed to amend the original agreements. Through the agreements as amended, provision is now made for the payment of a maximum allowance of \$55 in all provinces and in the two territories. The maximum amounts of income allowed are the

amounts specified in the federal Act. The age of eligibility is 18 years and the required period of residence in Canada is 10 years.

Administrative procedures are established by the Blind Persons Regulations. Among the most important are the procedures in connection with the medical examination and certification of applicants. These are matters for which the federal administration assumes full responsibility, the final decision in each case resting with the Chief of the Blindness Control Division in the Health Branch of the Department of National Health and Welfare. Except for the medical sections the regulations generally follow the same pattern as the Old Age Assistance Regulations.

Amendments to the regulations are usually recommended by the Advisory Board. In 1957-58 there were several amendments, almost all of which related to the calculation of income and the commencement of allowance payments. Further amendments were made later in the fiscal year to bring the references to the period of residence in Canada into conformity with the Act.

Statistics on blindness allowances appear at the end of the report on this Division.

### ***Allowance for Disabled Persons***

All provinces, except Newfoundland and British Columbia, authorized the payment of allowances under the Disabled Persons Act as of January 1, 1955. In the two named provinces the date was the same, April 1, 1955. In the Northwest Territories the date was October 1, 1955 and in the Yukon Territory it was October 1, 1956. The federal share of payments to recipients of disability allowances from the inception of the Act to March 31, 1958, was \$24,343,462.

The Act has been amended twice, both amendments being in 1957. In the original Act the maximum allowance to which the Government of Canada could contribute its share of 50 per cent was \$40 a month. The maximum amounts of income allowed were \$720 a year in the case of an unmarried person, \$1,200 a year in the case of a married person and \$1,320 a year in the case of a married person with a blind spouse. The first amendments, effective July 1, 1957, increased the maximum allowance to \$46 a month and the amounts of maximum income allowed to \$840, \$1,380 and \$1,740. The second amendments, effective November 1, 1957, increased the maximum allowance to \$55 a month and the maximum amounts of income allowed to \$960, \$1,620 and \$1,980. The second amendments also added several types of institutions to those in which disability allowances may be paid in accordance with the regulations under the Act.

There has been a continuous and substantial increase in the number of recipients. The number at the end of the fiscal year 1955-56 was 26,027, increasing to 31,835 at the close of 1956-57. At March 31, 1958, it was 41,840. The marked increase in the last fiscal year was due in a large measure to modifications to the definition of the expression "totally and permanently disabled". The increase in the number of recipients along with the higher payments naturally caused a substantial increase in the federal expenditure. For the fiscal year 1956-57 the amount was \$7,167,352. For 1957-58 it was \$11,091,664. So far transfers to old age security have had little effect on the number of recipients under the plan. Since the Act came into operation there have only been 122 recipients who reached the age of 70 years and became eligible to receive pensions under the Old Age Security Act.

As allowances for disabled persons are provided by a federal-provincial plan it follows that there are agreements between the Government of Canada and the governments of the provinces and the territories. These agreements were amended twice following the amendments to the Act in 1957. All agreements now provide for the payment of a maximum allowance of \$55 a month. The maximum amounts of income allowed are the amounts specified in the Act. The age at which a person may qualify for an allowance is 18 years and the required period of residence in Canada is 10 years.

The Disabled Persons Regulations deal mainly with administrative procedures. On medical matters, the provincial authorities have the opinion of doctors employed by both the province and the federal government. Federal administrative responsibility is divided between the Health Branch and the Welfare Branch of the Department of National Health and Welfare.

During 1957-58 there were several amendments to the Disabled Persons Regulations dealing mainly with the calculation of income, institutions and the commencement of allowances. Some of the amendments were recommended by the Advisory Board authorized by the Act and having this responsibility. Other amendments were made necessary by the amendments to the Act.

Statistics on allowances for disabled persons are shown at the end of the report on this Division.

TABLE 41  
(Old Age Assistance)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES  
For the Fiscal Year 1957-58

Province	Number of Recipients	Average Monthly Assistance	Federal Payments 1957-58
	Mar. 31, 1958	Mar. 31, 1958	
Alberta.....	5,715	\$51.33	\$1,538,750.51
British Columbia.....	6,096	52.91	1,979,058.25
Manitoba.....	4,474	53.37	1,297,115.27
New Brunswick.....	5,724	52.46	1,559,905.44
Newfoundland.....	5,119	53.63	1,298,769.97
Nova Scotia.....	5,219	50.15	1,318,054.57
Ontario.....	21,077	51.76	5,650,280.73
Prince Edward Island.....	659	45.55	142,257.55
Quebec.....	32,318	52.45	8,702,892.76
Saskatchewan.....	5,129	52.52	1,435,187.62
Northwest Territories.....	103	53.99	29,384.56
Yukon Territory.....	41	46.00	9,726.00
Total.....	92,484	.....	\$24,961,383.23

TABLE 42

(Blind Persons Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE AND TOTAL  
FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES

For the Fiscal Year 1957-58

Province	Number of Recipients	Average Monthly Allowance	Federal Payments 1957-58
	Mar. 31, 1958	Mar. 31, 1958	
Alberta.....	451	\$53.63	\$188,604.02
British Columbia.....	505	53.67	213,809.22
Manitoba.....	392	54.33	170,030.87
New Brunswick.....	715	53.94	310,480.52
Newfoundland.....	376	54.45	152,688.32
Nova Scotia.....	745	53.92	312,968.60
Ontario.....	1,720	53.73	735,344.01
Prince Edward Island.....	96	53.13	37,568.33
Quebec.....	2,956	54.41	1,264,975.17
Saskatchewan.....	412	53.32	176,094.73
Northwest Territories.....	27	51.85	10,860.75
Yukon Territory.....	5	46.00	2,299.50
Total.....	8,400	.....	\$3,575,724.04

TABLE 43

(Disabled Persons Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE AND TOTAL  
FEDERAL PAYMENTS, UNDER THE DISABLED PERSONS ACT, BY PROVINCES

For the Fiscal Year 1957-58

Province	Number of Recipients	Average Monthly Allowance	Federal Payments 1957-58
	Mar. 31, 1958	Mar. 31, 1958	
Alberta.....	1,492	\$53.59	\$ 396,826.02
British Columbia.....	1,281	54.18	349,099.60
Manitoba.....	1,028	54.36	273,554.78
New Brunswick.....	1,474	54.62	404,650.15
Newfoundland.....	822	54.78	205,844.74
Nova Scotia.....	1,790	52.56	456,948.23
Ontario.....	9,412	54.24	2,523,955.98
Prince Edward Island.....	460	52.12	113,222.42
Quebec.....	22,929	53.75	6,048,900.92
Saskatchewan.....	1,146	54.20	317,010.61
Northwest Territories.....	6	55.00	1,651.00
Total.....	41,840	.....	\$11,091,664.45



## UNEMPLOYMENT ASSISTANCE

### **Short History**

The Unemployment Assistance Act was given Royal Assent on July 11, 1956. Under the terms of the Act there was provision for the federal government to enter into an agreement with any province whereby the federal government would contribute 50 per cent of the assistance expenditures made by the province or by the municipalities within the province, but the federal sharing did not begin to apply until the number of persons in receipt of assistance exceeded .45 per cent of the population of the province. If the number of persons in receipt of assistance was over .45 per cent of the population of the province the federal government shared in those costs that were incurred over and above the expenditures that applied to .45 per cent of the population.

In December 1957, the Unemployment Assistance Act was amended to remove the .45 per cent threshold provision, effective January 1, 1958. Under the amended Act the federal government could enter into an agreement with a province for the sharing of all of the costs of assistance. New agreements were made with all of the 7 provinces that had signed an agreement under the 1956 Act and in addition, Nova Scotia and Alberta signed agreements effective from January 1, 1958.

### **Conditions under which Assistance may be given**

The conditions under which assistance is granted, including the rate of assistance, are determined by the province or municipality.

Expenditures for both employable and unemployable persons may be included and the costs of maintaining individuals in homes for special care, such as nursing homes or homes for the aged, are sharable under the agreement.

### **Federal Expenditures under the Unemployment Assistance Agreements**

The total federal expenditures for unemployment assistance during the year 1957-58 was \$8,233,125.33. Part of this expenditure covered the federal share of claims that related to a period prior to the fiscal year 1957-58. On the other hand, because the provinces may submit claims at any time up to 6 months after the month in which the assistance was given, there were still some claims for expenditures made by the provinces or municipalities during 1957-58 that were not received by the close of the fiscal year. Complete information in regard to federal reimbursement of provincial and municipal expenditures for 1957-58 will be shown in the next annual report.

Details concerning the amount paid to each province and the number of persons assisted are shown in Tables 44 to 49 appended.

TABLE 44  
(Unemployment Assistance)  
FEDERAL SHARE OF EXPENDITURES MADE BY PROVINCES OR  
MUNICIPALITIES IN 1957-58

Date	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick		Ontario		Manitoba		Saskatchewan		British Columbia		Total	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
April 1957	140,831	73	7,560	09			4,713	89	161,447	73(a)	74,531	61	56,216	78	207,545	50	652,847	33
May 1957	132,459	47	5,961	44			4,489	68	163,209	60(a)	73,271	06	53,055	54	201,786	92	634,233	71
June 1957	114,474	18	5,091	83			2,161	27	157,147	66(a)	59,642	00	39,666	65	194,521	80	572,705	39
July 1957	81,888	59	4,235	26			1,679	30	136,335	96(a)	62,422	96	39,170	59	178,650	09	504,382	75
August 1957	79,123	78	4,673	41			1,782	65	140,146	16(a)	62,345	98	42,360	24	177,041	52	507,473	74
September 1957	101,113	22	5,141	60			1,941	06	147,155	82(a)	62,497	95	40,051	06	178,166	55	536,067	26
October 1957	107,471	90(a)	4,938	74			2,573	09(a)	167,858	26(a)	(b)		51,387	97(a)	187,661	93	521,891	89
November 1957	126,056	46(a)	5,240	87			(b)		183,265	14(a)	(b)		56,710	69(a)	209,720	68	580,993	84
December 1957	146,508	99(a)	5,620	40			(b)		247,165	09(a)	(b)		31,832	51(a)	242,270	46	673,397	45
January 1958	219,994	70(a)	7,505	87	8,502	85(a)	(b)		(b)		(b)		(b)		343,884	05	579,887	47
February 1958	199,975	40(a)	8,639	49	8,721	93(a)	(b)		(b)		(b)		(b)		325,018	73(a)	542,355	55
March 1958	(b)		8,401	10	8,820	98(a)	(b)		(b)		(b)		(b)		229,729	90(a)	246,951	98
Total	1,449,898	42	73,010	10	26,045	76	19,340	94	1,503,731	42	394,711	56	410,452	03	2,675,998	13	6,553,188	36

(a) Partial payment—supplementary claim will follow.

(b) Claim not received at time of preparation of report. Payment for these months will be shown in next annual report..

TABLE 45  
(Unemployment Assistance)  
FEDERAL SHARE OF EXPENDITURES MADE BY PROVINCES OR  
MUNICIPALITIES IN 1956-57

Date	Newfoundland	Prince Edward Island	New Brunswick	Ontario	Manitoba	Saskatchewan	British Columbia	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April 1956.....	173,505 28	6,656 39	5,021 48	.....	68,654 19	48,407 81	219,505 01	521,750 16
May 1956.....	162,038 93	6,155 57	4,129 88	.....	62,140 50	45,098 11	203,249 89	482,812 88
June 1956.....	145,835 49	2,782 07	105 35	.....	49,425 78	34,171 38	188,380 59	420,700 66
July 1956.....	91,662 16	3,262 92	388 93	.....	41,585 76	26,175 49	176,588 42	339,663 68
August 1956.....	86,749 42	3,273 23	344 79	.....	38,847 75	30,901 56	168,937 41	329,054 16
September 1956.....	87,087 12	3,435 65	Nil(a)	.....	41,335 81	27,336 88	163,563 95	322,759 41
October 1956.....	107,737 94	3,535 03	973 34	.....	45,441 55	31,282 06	163,569 69	352,539 61
November 1956.....	132,954 05	3,566 00	1,573 47	.....	53,972 75	45,952 44	176,247 70	414,266 41
December 1956.....	135,512 85	4,308 25	2,305 74	146,863 75(a)	65,628 37	58,540 80	206,160 39	619,320 15
January 1957.....	149,871 39	5,328 77	6,234 62	159,895 91(a)	65,147 89	53,383 94	208,321 24	648,183 76
February 1957.....	144,762 07	5,570 80	6,120 42	162,546 49(a)	69,482 85	56,792 01	209,008 94	654,283 58
March 1957.....	144,341 62	6,161 21	5,688 94	162,423 01(a)	66,989 09	54,635 85	216,361 25	656,600 97
Total.....	1,562,058 32	54,035 89	32,886 96	631,729 16	668,652 29	512,678 33	2,299,894 48	5,761,935 43

(a) Partial payment—supplementary claim will follow.

TABLE 46  
(Unemployment Assistance)  
FEDERAL SHARE OF EXPENDITURES MADE BY PROVINCES OR  
MUNICIPALITIES IN 1956-57

Date	Newfoundland		Prince Edward Island		New Brunswick(a)		Manitoba		Saskatchewan		British Columbia		Total	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
July 1955.....	83,173	63	5,615	69	.....	.....	40,688	89	26,580	90	200,991	84	357,051	15
August 1955.....	84,686	07	5,796	28	.....	.....	41,085	38	26,414	48	181,175	04	339,157	25
September 1955.....	93,555	51	5,920	33	.....	.....	39,814	58	21,453	61	175,338	94	336,082	97
October 1955.....	107,975	45	5,757	80	.....	.....	43,407	53	27,318	94	172,132	63	336,592	35
November 1955.....	134,719	67	5,957	76	.....	.....	53,850	61	43,124	33	175,139	02	412,791	39
December 1955.....	153,979	30	6,649	16	.....	.....	68,819	69	62,674	87	206,917	91	499,040	93
January 1956.....	166,413	45	6,405	52	6,695	15	66,490	61	52,199	55	201,885	11	500,089	39
February 1956.....	175,472	80	6,383	72	6,419	65	67,455	02	55,084	38	202,058	15	512,873	72
March 1956.....	174,758	95	6,546	91	5,739	20	71,079	94	54,668	06	205,700	64	518,493	70
Total.....	1,174,734	83	55,033	37	18,854	00	492,692	25	369,519	12	1,721,339	28	3,832,172	85

(a) Agreement with New Brunswick effective from January 1956.

TABLE 47  
(Unemployment Assistance)  
NUMBER OF PERSONS IN RECEIPT OF ASSISTANCE 1957-58

Date	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	British Columbia	Total
April 1957.....	39,009	2,019	.....	3,604	37,340(a)	10,204	10,591	20,324	123,091
May 1957.....	37,241	1,483	.....	3,547	37,233(a)	9,627	9,756	20,076	118,963
June 1957.....	33,199	1,312	.....	3,005	36,558(a)	8,508	8,754	19,104	110,440
July 1957.....	30,520	1,068	.....	2,883	36,105(a)	8,526	8,727	19,009	106,838
August 1957.....	29,690	1,135	.....	2,894	35,784(a)	8,580	8,722	19,035	105,840
September 1957.....	34,093	1,299	.....	2,960	36,466(a)	8,651	8,480	18,831	110,780
October 1957.....	34,710(a)	1,269	.....	3,093(a)	37,658(a)	(b)	9,401(a)	19,646	105,777
November 1957.....	38,192(a)	1,363	.....	(b)	38,793(a)	(b)	9,846(a)	21,521	109,715
December 1957.....	43,604(a)	1,548	.....	(b)	45,048(a)	(b)	7,440(a)	22,911	120,551
January 1958.....	46,118(a)	1,585	1,311(a)	(b)	(b)	(b)	(b)	23,523	72,537
February 1958.....	42,874(a)	1,671	1,365(a)	(b)	(b)	(b)	(b)	22,946(a)	68,856
March 1958.....	(b)	1,724	1,393(a)	(b)	(b)	(b)	(b)	17,786(a)	20,903
Total.....	409,250	17,476	4,069	21,986	340,985	54,096	81,717	244,712	1,174,291
Average.....	37,204	1,456	1,356	3,140	37,887	9,016	9,079	20,392	97,857

(a) Indicates data from first claim—supplementary claim will follow.

(b) Claim not received at time of preparation of report.



TABLE 48  
(Unemployment Assistance)  
NUMBER OF PERSONS IN RECEIPT OF ASSISTANCE 1956-57

Date	Newfoundland	Prince Edward Island	New Brunswick	Ontario	Manitoba	Saskatchewan	British Columbia	Total
April 1956.....	39,739	1,593	3,695	.....	10,513	9,824	20,482	85,846
May 1956.....	36,408	1,490	3,446	.....	9,707	8,841	19,473	79,365
June 1956.....	30,781	797	2,532	.....	8,407	8,099	18,495	69,111
July 1956.....	27,248	847	2,637	.....	7,567	7,305	18,157	63,761
August 1956.....	26,096	864	2,627	.....	7,482	7,666	17,702	62,437
September 1956.....	26,027	875	2,534	.....	7,317	7,274	17,445	61,472
October 1956.....	28,842	912	2,759	.....	7,656	7,466	17,352	64,987
November 1956.....	32,950	895	2,885	.....	8,637	8,724	18,493	72,584
December 1956.....	36,288	1,050	3,031	35,344(a)	9,375	9,787	20,223	115,098
January 1957.....	40,308	1,289	3,923	36,974(a)	9,733	10,136	20,661	123,024
February 1957.....	39,578	1,420	3,953	37,463(a)	10,040	10,251	20,345	123,050
March 1957.....	39,489	1,532	3,797	37,379(a)	9,836	10,123	21,289	123,445
Total.....	403,754	13,564	37,819	147,160	106,270	105,496	230,117	1,044,180
Average.....	33,646	1,130	3,152	36,790	8,856	8,791	19,176	87,015

(a) Indicates data from first claim—supplementary claim will follow.

TABLE 49  
(Unemployment Assistance)  
NUMBER OF PERSONS IN RECEIPT OF ASSISTANCE 1955-56

Date	Newfoundland	Prince Edward Island	New Brunswick(a)	Manitoba	Saskatchewan	British Columbia	Total
July 1955.....	17,138	1,223	.....	7,539	7,433	20,372	53,705
August 1955.....	17,179	1,229	.....	7,524	7,084	18,960	51,976
September 1955.....	18,082	1,292	.....	7,424	6,376	18,485	51,659
October 1955.....	20,111	1,222	.....	7,407	6,900	18,227	53,867
November 1955.....	26,243	1,284	.....	8,587	8,129	18,645	62,888
December 1955.....	31,572	1,539	.....	9,655	9,686	20,271	72,723
January 1956.....	36,865	1,518	4,158	10,167	9,621	20,626	82,955
February 1956.....	39,701	1,531	4,103	10,602	9,897	20,559	86,393
March 1956.....	38,641	1,596	3,843	10,905	10,464	20,785	86,234
Total.....	245,532	12,434	12,104	79,810	75,590	176,930	602,400
Average.....	27,281	1,382	4,035	8,868	8,399	19,659	66,933

(a) Agreement with New Brunswick effective from January 1956.

# CIVIL DEFENCE

## **General**

The function of Civil Defence is to minimize the effects of disaster upon the population of Canada and upon the property of the Canadian people; to take measures to reduce loss of life, and to provide medical, welfare and other assistance to the civilian population. To carry out a program of such magnitude requires the strength and resources of the entire nation and necessitates a division of responsibility between federal, provincial and municipal governments.

Since Civil Defence must centre on local organization and action, the role of the federal government is largely that of a guiding, directing and co-ordinating agency whose job it is to help ensure that adequate planning and organization is maintained on provincial and local levels; that key personnel and instructors are trained in the various specialized fields; and that sufficient supplies of key materials and equipment, required exclusively for Civil Defence purposes, are made available on the operational level.

To this end, federal Civil Defence authorities continued to press forward during the fiscal year 1957-58. The tempo of training key Civil Defence instructors and others was stepped up. The Financial Assistance Programme was implemented to a greater degree than heretofore. All services continued to develop organizational, functional and operational plans essential in the event of a national disaster. Continued assistance was given to provinces and communities in establishing their Civil Defence welfare and health services organizations. Considerable progress was made during the year with respect to warning and communications services and to evacuation planning.

## **Compensation Agreements**

All provinces, with the exception of Quebec and Prince Edward Island have executed compensation agreements with the federal government permitting compensation to be made on a 50-50 sharing basis for death or injury while in training, to enrolled Civil Defence workers.

## **Financial Assistance Programme**

As of the 31st March, 1958, all provinces, with the exception of Quebec and Prince Edward Island were participating with the federal government in the Civil Defence Financial Assistance Programme. Of the \$2 million provided for assistance for Civil Defence purposes, \$1,169,238 was committed against federally-approved projects of \$2,537,698 and actual payments to provinces and municipalities totalled \$967,896.

Three municipalities in the Province of Quebec (Lachine, St. Lambert and Sillery), submitted projects totalling \$6,536 and recovered approximately \$1,050. Provincial quotas, participation of municipalities, provinces and the federal government are tabulated below together with the total of projects approved and payment made in connection therewith. The tabulation represents a substantial increase in participation in this program over the previous year, when the federal commitment was \$974,795 with payments at \$813,686.

TABLE 50

(Civil Defence)

## FINANCIAL ASSISTANCE PROGRAMME 1957-58

All amounts to nearest dollar

Province	Quota	Municipal	Provincial	Federal	Total	Federal Payments
	\$	\$	\$	\$	\$	\$
Newfoundland.....	46,640	.....	22,895	22,895	45,790	10,543
Prince Edward Island.....	11,550	.....	.....	.....	.....	.....
Nova Scotia.....	90,866	11,164	40,413	51,577	103,154	38,618
New Brunswick.....	70,251	14,707	34,707	49,415	98,830	33,530
Quebec.....	680,423	4,902	.....	1,635	6,536	1,049
Ontario.....	786,950	181,095	386,564	567,659	1,135,318	451,017
Manitoba.....	131,912	32,569	53,636	65,424	151,629	33,493
Saskatchewan.....	98,670	11,112	52,195	56,349	119,656	45,361
Alberta. <sup>(a)</sup> .....	142,525	47,887	142,140	142,525	332,552	142,525
British Columbia <sup>(b)</sup> .....	219,196	196,633	135,841	211,760	544,233	211,760
Total.....	\$2,279,003	\$500,069	\$868,391	\$1,169,238	\$2,537,698	\$967,896

Notes <sup>(a)</sup> and <sup>(b)</sup>: Combined municipal and provincial expenditures exceed the federal quotas.**Hose Coupling Standardization Program**

The federal government is committed by federal/provincial agreement to meet one-third of the cost of standardization of hose couplings. British Columbia, the third province to complete its hose coupling program, did so during 1957-58 with the federal contribution being \$92,000.

**Information Services**

The highlight of public information activities in Civil Defence during 1957-58 was the observance of the first National Civil Defence Day on October 4. Nearly 2 million promotional pieces as well as 50,000 newsletters (English and French) were produced and distributed by the Division as an aid to Civil Defence directors participating in a nation-wide crash program designed to inform all Canadians about the work of Civil Defence in their own community. In addition to the 13 promotional material units, the Division supplied television and theatre slides, newspaper mats, recorded radio programs, speeches and press releases.

A total of 3,628,236 pieces of Civil Defence literature were distributed by the Division during the year. Production of 12 new Civil Defence publications were completed and another 13 publications were undertaken. Fourteen Civil Defence pamphlets and manuals were reprinted and 24 special printing projects completed.

A filmstrip on "The Warden Service" was undertaken and a second on radiological instruments and training planned. A special newsclip on evacuation was produced. Two new series of posters were completed during the year.

A total of 24 Civil Defence displays are now available to provincial and municipal co-ordinators, plus a series of 4 small window displays. Seven new displays, measuring from 10 ft. to 30 ft., were constructed during the year and another four 10 ft. displays designed. At the request of the provincial co-ordinators, a 6-panelled lecture unit was reproduced for distribution in the provinces.

Numerous training aids produced by the Division for the Training and Education Section and the Canadian Civil Defence College were undertaken again during the fiscal year.

Twelve 10-minute recorded radio programs on Civil Defence were again included in the department's regular dramatic series "Here's Health".

For the sixth consecutive year, the Federal Civil Defence Bulletin was produced and circulated among 16,000 volunteers across Canada. A continuing series of technical photographic slides were made available by the Division for lecture and training purposes.

Liaison was maintained with provincial and municipal Civil Defence co-ordinators and directors, the Public Affairs Section of the Federal Civil Defence Administration in the United States, with NATO Headquarters and allied countries participating in the general Civil Defence program. A vigorous and continuing press relations program was maintained throughout the year.

During the year, the Division was responsible for the public relations aspects of 5 major conferences of Civil Defence agencies and one national test exercise.

### ***Plans and Operations***

The Planning Section was authorized in 1955 and was expanded during 1957-58 to include Operations.

During the past year a manual entitled "Interim Guide to Engineer Planning" was prepared and issued to the provinces as a supplement to the previously issued "Guide to Survival Planning".

First key evacuation and reception plans were completed for the target city areas of Winnipeg and Vancouver and a draft key plan was prepared for Metropolitan Toronto. Out of the 13 target areas in Canada, this raises to 9 the number which have first key plans. To obtain further information on traffic planning, arrangements were made for the Metropolitan Toronto Planning Board, in conjunction with the Defence Research Board, to carry out Civil Defence evacuation traffic studies.

Conferences on the design and positioning of Civil Defence evacuation route signs were held with the Signs Sub-Committee of the Canadian Manual of Traffic Control Devices, resulting in the development of standard Civil Defence traffic signs to be available for use across the country.

Studies and plans were initiated with respect to meteorological and radiation reporting, bomb location and large-area monitoring, rapid dispensation of fuel during evacuation, Civil Defence engineering problems and air support for Civil Defence.



### **Transportation**

Activities in this Section included continuous efforts with a view to making the provinces more conscious of the importance of organizing all fields of transportation into their Civil Defence operational planning.

Many meetings were held with national transportation associations including railway and highway.

Participation in United States exercises have included those conducted by the Civil Air Patrol—a wing of the United States Air Force.

A simple device was developed to enable the speedy conversion of standard pre-selected trucks for use as ambulances in the event of an emergency.

A Railway Transportation Forum was conducted at the Canadian Civil Defence College and was attended by ranking officers representing all Canadian railways and railway associations and also United States railways operating within Canada.

### **Communications and Warnings**

The existing Civil Defence warning network has been maintained and subjected to monthly tests.

An additional telephone warning line connecting Air Defence Command to the government switchboard in Ottawa with extensions in Ottawa to the Federal Civil Defence Co-ordinator and the Royal Canadian Mounted Police and a line connecting the government switchboard in Ottawa with the Civil Defence College in Arnprior was ordered.

A teletype circuit connecting federal Civil Defence in Ottawa to provincial Civil Defence in Quebec, New Brunswick, Nova Scotia and Newfoundland was ordered.

Twenty-five sirens issued to Toronto have been installed, distribution of the remaining 75 in stock was arranged and a further 100 high power sirens were ordered to complete Target Areas coverage.

Liaison with United States Federal Civil Defence Administration has continued.

The problems of federal/provincial radio communications and frequencies were studied and are under discussion with the Department of National Defence and the Department of Transport.

### **Welfare**

The Welfare Planning Group concentrated on the completion of priority programs designed to ensure maximum operational preparedness.

In the area of Emergency Lodging, a pilot project was carried out at Woodstock, N.B. Under the auspices and direction of federal Civil Defence, provincial and municipal Civil Defence officers from widely scattered municipalities of that province conducted a survey of resources and prepared a reception plan.

Registration and Inquiry Kits were produced and made available to the provinces. Research into a 3-day survival food kit was completed. A photo-type kit was produced and specifications for manufacture have been prepared.

Policy and procedures with regard to emergency clothing were finalized and an instructional manual was produced. Extensive research work was carried out in the field of Personal Services.

Special courses in the Welfare Services were given at the Civil Defence College. Courses for welfare instructors and welfare directors were given for the first time. Members of the Group assisted some provinces in conducting local welfare courses.

Canadian welfare planners met with their counterparts from Battle Creek and Washington at Ottawa. The Canadian Emergency Feeding Advisor attended conferences at Battle Creek dealing with post-attack food supply problems.

### **Health Services**

Federal Civil Defence Health Services received and disseminated information on the health aspects of Civil Defence. The revision of the health services manual continues and certain sections have been completed.

### **Medical Services**

Satisfactory progress was made in the development by hospitals of disaster plans. Through the auspices of the Canadian Hospital Association all general hospitals have been sent questionnaires enquiring into the state of their disaster plans.

### **Blood Program**

The Red Cross Transfusion Service is now established as a national peace-time service. However, as the blood depots are located mainly in target areas Civil Defence Health Services and the Red Cross Society have developed a joint plan to provide blood services under conditions of emergency. The plan involves the establishment of shadow depots outside target areas which would replace the parent depots.

### **Public Health**

In the field of public health, attention is being directed to problems associated with mass movements of populations and their settlement in disturbed reception areas.

### **Training**

Progress has been made in having certain schools of medicine either initiate or expand a course in Disaster Medicine. Instruction in the Civil Defence aspects of their profession has been included in the curriculum of schools of pharmacy. All provincial nurses' associations have indicated that disaster nursing has been incorporated into the basic curriculum for student nurses.

Courses were provided at the Civil Defence College for physicians and dentists, pharmacists, nurses and casualty simulation instructors. These courses will be continued and it is planned to add a course for veterinarians.

The Canadian Red Cross Society and the St. John Ambulance Association have integrated into their home nursing auxiliary programs, training in the Civil Defence aspects of home nursing.

### **Special Weapons**

The Special Weapons Section of Civil Defence Health Services is bringing to completion a number of directives for control of radiation hazards. These directives are at present published as separate papers but will soon be issued in handbook form. This Section continues its scientific studies in the fields of nuclear, chemical and biological warfare.

### Health Supplies

The stockpile of essential health supplies made considerable progress during the year. The value of supplies received is now approximately \$5 million. Approval was obtained during the year to increase the value of the stockpile from \$9 million to \$11 million. In addition authority was obtained for the purchase of the initial supply of improvised or emergency hospitals.

### Training Education

During the fiscal year totals trained under federal auspices and at municipal and local level showed a substantial increase. As of March 31, 1958 over 14,000 men and women have been trained under federal auspices while the provinces report that 135,000 Civil Defence enrollees have received general or special service training. The facilities of the Canadian Civil Defence College have been utilized to the fullest extent during the past year and, in addition, certain key personnel have attended special Civil Defence courses at the United Kingdom Staff College and at the United States Civil Defence Staff College.

The Civil Defence strength, reported by the provinces as of the 31st March, 1958, is as follows:

TABLE 51

Province	Full-Time	Volunteers	Total	Trained to Date
British Columbia.....	18,503	39,549	58,052	42,107
Alberta 31/3/57.....	16,050	14,465	30,515	26,465
Saskatchewan 31/3/57.....	4,537	13,248	17,785	13,030
Manitoba 31/3/57.....	3,309	18,942	22,251	3,402
Ontario 31/3/57.....	35,370	46,173	81,543	40,000
Quebec.....	34,122	11,880	46,002	8,822
New Brunswick 31/3/57.....	525	2,562	3,087	1,118
Nova Scotia.....	1,400	6,736	8,136	462
Prince Edward Island.....				
Newfoundland 31/3/57.....	1,325	110	1,435	107
Total.....	115,141	153,665	268,806	135,513

Exercise "Co-operation I" was conducted in May in collaboration with the Federal Civil Defence Administration of the United States. All provinces participated for the purpose of developing operational procedures and the training of Control Centre personnel.

**Canadian Civil Defence College**

During the current year, 3,524 persons received training at the Canadian Civil Defence College. Breakdown was as follows:

British Columbia .....	321	Newfoundland .....	29
Alberta .....	227	Armed Forces .....	751
Saskatchewan .....	138	Civil Service Civil De-	
Manitoba .....	147	fence .....	20
Ontario .....	583	Federal Employees ....	132
Quebec .....	84	Royal Canadian	
New Brunswick .....	111	Mounted Police ....	14
Nova Scotia .....	100	Others .....	18
Prince Edward Island	2	Group Visits .....	847

The types of courses conducted during the year were Staff Courses (including all phases of Civil Defence Orientation Planning and Operations); Indoctrination Courses in Civil Defence for doctors, dentists and nurses; Welfare Courses in Organization, Emergency Feeding, Emergency Lodging, Personal Services and Registration and Inquiry; Indoctrination Conference of Clergy of all Denominations; Forums in Communication and Engineering; Radiological Defence Courses; Techniques of Instruction Courses.

Special courses in Civil Defence Indoctrination and Rescue were again conducted for the training of personnel of the armed services. In addition to this the Department of National Defence has taken advantage of the regular types of courses to train a large number of officers and warrant officers in Civil Defence procedures.

**Civil Service Civil Defence**

The Civil Service Civil Defence organization directed its training efforts during the past fiscal year more towards specialization than to mass indoctrination as was the case in previous years. Rescue, Radiation Monitoring, First Aid, Home Nursing, Casualty Simulation Courses, Staff Indoctrination and Control Centre Operations including teletype practice were undertaken.

Practically all buildings in Greater Ottawa occupied by employees of the federal government held emergency evacuation exercises during the past year. Civil Service Civil Defence fire fighting teams in all buildings received periodic refresher training from members of the staff of the Dominion Fire Commissioner.



# ADMINISTRATION BRANCH

The Administration Branch serves the entire department both across Canada and overseas. Developing departmental responsibilities in a number of fields during the year created increasing demands upon the administrative services.

Reports follow of the activities of the various divisions comprising the Administration Branch—the Departmental Secretary's Division, Information Services Division, Legal Division, Departmental Library, Personnel Division, Purchasing and Supply Division and Research and Statistics Division.

## DEPARTMENTAL SECRETARY'S DIVISION

As in former years the responsibilities of the Departmental Secretary's Division fell into 2 main classes—those carried out by the Departmental Secretary personally and those borne largely by the staff of the Division.

Included among the first group were (a) acting as financial adviser to the department in respect of many aspects of its work; (b) assisting the Minister and Deputy Ministers in the preparation and approval of the departmental estimates; (c) acting as the Deputy Minister's substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfers between allotments, submissions to the Governor-in-Council and to the Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament and carrying out many special projects which were assigned from time to time.

The second group of responsibilities was assumed by the various Sections of the Divisions as follows:

Registry Services carried out all phases of the work relating to the custody, circulation and retirement of the department's official records. This involved the operation of a central registry and 7 sub-registries. Considerable attention was given during the year to the re-organization and retirement of field records and an aggressive retirement program was carried out at headquarters and in the field in order to keep to the minimum the time, effort, space and equipment involved in the management of the department's extensive records. Mail, messenger and truck services at head office continued to be provided by this Section.

The Accounts and Estimates Section serves the department in connection with financial matters pertaining to the preparation of estimates and to budget operations throughout the year, assisting the Divisions with advice and information. During the past year particular problems arose because of the prolongation of the interim supply period during which Parliament allotted only a fraction of the Estimates to carry on spending operations from month to month until the Appropriation Bill was enacted. A constant control of expenditures was thereby necessitated to ensure the most efficient use of available funds.

The work of the Parliamentary Papers and Correspondence Section consisted largely of preparing replies to the many thousands of letters and inquiries which were received on a wide range of health and welfare subjects. This Section



was also responsible for processing, distributing, and recording all submissions, orders-in-council, Treasury Board minutes, Treasury Board circular letters, and other documents, and for the daily reading of all parliamentary papers, and the excerpting, distributing, and indexing of items of interest to this department.

In the Duplicating Section almost 18 million duplicating impressions were produced, with the many related operations representing a correspondingly heavy workload. Particular attention was given in the past year to the maintenance of the department's addressograph lists which totalled about 200,000 names.

A central source of typing assistance was again provided to the entire department in Ottawa by the Secretarial Services. As well, all typing and matrice work required in the preparation of material for reproduction in the Duplicating Section was done by the Secretarial Services. Varytper facilities continued to be available.

In addition the Departmental Secretary's office acted as an information centre for the entire department and carried out numerous special projects which normally fall to the lot of the secretariat of a large organization.

### INFORMATION SERVICES DIVISION

During the year, Information Services Division continued to carry out its assigned functions in the fields of public information, health education and public relations. In the past 12 months the Division's Distribution Section handled a total of 24,000 individual requests for literature and distributed 8,340,000 copies of various health publications. This represents an increase of 2,112,000 copies over last year's operations.

In addition, the Division distributed 720,000 copies of the departmental magazine, *Canada's Health and Welfare*; 103,400 copies of the *Civil Defence Bulletin*; 2,400 copies of the professional newsletter, *For Your Information*; 3,360 copies of the National Health Radio Notes; 5,500 copies of the Health Column for weekly newspapers; 6,500 copies of the National Health press fillers; 675,000 school attendance reminders for the Family Allowances Division; 1,990,000 inserts for use in Family Allowances envelopes, publicizing rate changes; and 707,500 Old Age Security inserts explaining rate increases. In addition, the Division was responsible for editing and producing departmental periodicals including *Canada's Mental Health*, *Canadian Nutrition Notes*, *Occupational Health Bulletin*, *Occupational Health Review*, *Indian Health Newsletter* and the *Food and Drug News*.

The Division's Biological Photographic Laboratory produced a total of 11,087 photographic prints, 2,045 negatives and 1,100 lantern slides during the year. In this period, the photographic laboratory carried out complete coverage in colour of the Canadian cheese industry for the Food and Drug Division, produced a series of filmstrips on *Posture* for the Physical Fitness Consultant and carried out a full program of scientific work in co-operation with departmental laboratories. The Section also produced slides and photoprints for use on television, theatre screens and for publications.

#### Public Information

The departmental magazine, *Canada's Health and Welfare* was published 10 times during the fiscal year and 2 supplements—*Food and People*, and *The Quiet Ones* were produced. For the eighth consecutive year the department's radio series *Here's Health* continued to be used each week by more than 100 radio stations, English and French. For the eighteenth consecutive year the

National Health radio news flashes and the monthly radio letter were prepared and sent out to all radio stations in Canada. *Canada's Health*, a column for weekly newspapers, and a regular press filler service for daily newspapers continued to be sent out in English and French.

A continuing program of procurement, screening and evaluation of films for inclusion in the National Health Film Library, the Medical and Biological Film Library, and the National Welfare Film Library was carried out and a number of new titles was added to these libraries.

### **Health Education**

During the year preliminary plans were laid for a federal-provincial conference on health education to be held during the autumn of 1958. A continuing liaison was maintained with health educators in all ten provinces.

As the department's stock of successful literature builds up, an increasing percentage of funds available for health education publications is being devoted to reprinting existing materials. A number of new publications were, however, presented during the year. Among these were: *Keep Them Safe, Good Grooming for Women, Why Get Ill From Foods?, Alcoholism, How Safe Is your Home?, The Sick Child at Home, Maternal and New Born Care in Canada, Posture and Rest Positions for Expectant Mothers* and a French-language version of the *Dental Health Manual, A Book for Mothers, The Preschooler, The Child From One to Six* were produced for the Indian and Northern Health Services for distribution among Canada's native population. Publications produced in the mental health field included: *Building Self Confidence, Adolescence, Understanding the Young Adult, Employment Opportunities for Occupational Therapy Assistants in the Mental Health Field, The Later Years* and *Helping Families in Trouble*.

During the year a new film on mental health, *Stigma*, was produced in English and French, and French versions of two other films, *The Teens* and *Portrait of an Alcoholic* were released.

A number of posters were produced, including a series on child safety and exhibits were prepared and presented at professional conferences throughout Canada and the United States.

### **Public Relations**

A vigorous public relations and press relations program was maintained during the year. Press releases were produced on newsworthy happenings within the department and assistance was given to members of the working press as required.

Members of the Division represented the department at the American Public Health Association, the National Conference on Social Welfare, the Canadian Public Health Association, the American Medical Association, the Canadian Medical Association, the Canadian Dental Association, the Ontario Association for Retarded Children, the Western Canada Health Education Conference, the Conference of the College of General Practice, the Association des médecins de langue française, the Association des Hebdomadaires de langue française, and other professional gatherings. Assistance was given the Canadian Government Exhibition Commission in designing a section on Public Health for the Canadian pavilion at the Brussels World Fair.

## LEGAL DIVISION

The Legal Division provides legal services to the department in matters within departmental responsibility and concern. These services cover the furnishing of legal advice and opinions, including advice on prosecutions under the Food and Drugs Act, the Opium and Narcotic Drug Act, the Family Allowances Act and the Old Age Security Act, the preparation of contracts, agreements and other legal documents, the interpretation of statutes and regulations and the preparation of submissions to the Governor General in Council and to the Treasury Board. Performance of these services entails the maintenance of liaison with other departments and agencies of government, including the Royal Canadian Mounted Police in matters relative to the Opium and Narcotic Drug Act and the Food and Drugs Act.

Assistance was provided by the Division in the development of material and preliminary drafts required in preparing legislation, including the Hospital Insurance and Diagnostic Services Act and the Regulations thereunder. The officers of the Division participated in numerous conferences with hospital insurance and other authorities of many of the provinces with a view to assisting in the development of corresponding hospital insurance legislation at the provincial level and the eventual completion of cost-sharing agreements.

The services of the Legal Division were required in the revision and consolidation of certain of the regulations administered by the department, in the drafting of regulations for submission to the Department of Justice, in other preliminary legislative drafting, in the collection of Family Allowances and Old Age Security overpayments, and in the recovery of compensation for the loss of or damage to Crown property.

The Legal Division provided consultative legal services to a number of voluntary health agencies and organizations, and the officers of the Division represented the department on various boards concerned with policy and administrative matters in which the department has some interest or responsibility.

The Legal Adviser attended in New York, as Legal Adviser and Alternate Canadian Delegate, the 12th Session of the United Nations Commission on Narcotic Drugs, and served during the Session as Chairman of the Drafting Committee working towards the production of a single International Convention respecting narcotic drugs. In addition at the request of the World Health Organization the Legal Adviser acted as consultant to the Government of Trinidad in the revision of public health legislation in that country.

## LIBRARY

The Departmental Library continued the selection, acquisition and organization of reference and technical books, serials, pamphlets and government documents on all subjects related to the department's work in Ottawa and in field establishments. The usual service of answering reference questions and advising about authorities and sources of information was maintained.

Cataloguing of all collections was done in the main library where a dictionary-type master-catalogue by author, title and subject of all holdings was kept up to date. Additional finished catalogue records were supplied to other establishments and to the Union Catalogue maintained by the National Library. The cataloguing staff also compiled or edited bibliographies and indexes as required.

Orders for all published books, serials, and pamphlets for retention or distribution, were reviewed before purchases were authorized, and the most economical means of ordering selected.

In September 1957, the small branch library associated with the Occupational Health Laboratory was moved to the Environmental Health Centre, 45 Spencer Street, and enlarged to serve as well the needs of the other Sections of the Occupational Health Division and of the Public Health Engineering Division.

Bibliographies on "Social Work Education in Canada" and on "Improvements of Family Levels of Living in Canada" for 1954-56 were compiled for the International Social Service Review, published by the United Nations.

### PERSONNEL DIVISION

In 1957-58 there was a modest increase in the total number of positions established for the department. Recruiting improved quantitatively with the result that there were fewer positions vacant at the close of the year than was the case in earlier years. The improvement was however confined almost entirely to clerical, administrative and technical supporting staff. Difficulty in recruiting and retaining adequately qualified professional and scientific personnel continued. This reflected a non-competitive salary structure particularly at the higher grades, and a shortage of people with the required training.

The Personnel Division continued to work with the Civil Service Commission in the development of a career service which would be attractive at the recruiting level and would reduce the rate of turnover which is disproportionate in the professional and scientific series. Strenuous efforts were made to eliminate delays in the recruiting processes and in the procedures leading to revisions in classifications and salaries. Some progress was made in developing simplified class specifications to facilitate the personnel administration of the department.



TABLE 52  
(Personnel Division)  
STAFF CHANGES WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES

Classification	Authorized positions March 31, 1958	Vacant positions March 31, 1958	Appointments during the fiscal year	Transfers or promotions during the fiscal year	Terminations during the fiscal year	Approx. number of terminations per 100 positions
Physicians.....	337	22	54	13	16	5
Dentists.....	23	5	5	2	1	.....
Registered Nurses.....	643	54	208	55	197	31
Chemists.....	112	8	11	20	6	5
Bacteriologists.....	32	7	2	2	5	.....
Pharmacists.....	6	.....	1	.....	1	.....
Laboratory Technicians.....	19	6	3	.....	1	.....
Nutritionists.....	19	2	.....	.....	1	.....
X-Ray Operators.....	37	.....	1	.....	4	.....
Food and Drug Inspectors.....	72	3	7	2	5	.....
Public Health Engineers.....	28	3	2	.....	.....	.....
Social Workers.....	31	3	6	2	3	.....
Information Officers.....	11	1	.....	2	.....	.....
All Other Classes.....	3,673	110	718	325	718	21
Total.....	4,737	224	1,018	423	938	20



TABLE 53  
(Personnel Division)  
GEOGRAPHICAL DISTRIBUTION OF ESTABLISHED POSITIONS, MARCH 31, 1958

Location	Welfare Branch (including Civil Defence)	Health Branch		Administration Branch	Total
		Indian and Northern Health Services	Other		
Ottawa.....	111	100	613	340	1,164
Northwest Territories.....		47			47
British Columbia.....	68	528	66		662
Alberta.....	60	494	7		561
Saskatchewan.....	57	194	7		258
Manitoba.....	49	203	25		277
Ontario.....	373	397	54		824
Quebec.....	221	33	240		494
New Brunswick.....	43	1	18		62
Nova Scotia.....	53	14	82		149
Prince Edward Island.....	11		1		12
Newfoundland.....	31		13		44
United States.....			4		4
Overseas.....			179		179
Total.....	1,077	2,011	1,309	340	4,737

## **PURCHASING AND SUPPLY DIVISION**

The Purchasing and Supply Division continued to meet the departmental requirements for materials, equipment, supplies, accommodation, printing and stationery, telephones and other public utility services. This included contracting for and procuring scientific, technical and medical equipment for hospitals, laboratories, health units, clinics, the Civil Defence College, and quarantine and immigration stations. It involved shipments to the Northwest Territories, eastern and western Arctic, United Kingdom and continental Europe. The continued increase in volume of work and responsibility during the year is clearly supported by and reflected in the reports of other divisions. The purchase of technical and scientific equipment for the department's various laboratories proved a major responsibility, occasioned by the advances in electronic instrumentation.

The high cost of food and food products and the increase in recent years in freight rates, required more stringent supervision of provisioning.

The Civil Defence Division had exceptional requirements during the year and several large projects were carried out. The purchase and delivery of 10 prototype transportable broadcast stations, consisting of a prime mover and tractor complete with a 5 KVA transmitter, console, generator, 150 ft. aluminum mast and related tools is one type of contract that provided a challenge. Several very large contracts for air raid sirens and radiation instruments were also initiated and completed.

Approximately 13,700 requisitions were processed, comprising almost every commodity and involving orders placed with manufacturers and suppliers in Canada, United States, United Kingdom and continental Europe.

The Stores Section of the Division handled and shipped to various establishments in Canada and overseas 7,570 shipments totalling 250,000 lbs.

Planning and development continued on inventory throughout the department. Inventory officers visited all main establishments and regional offices, assisting in the implementation of methods and procedures. The information available from inventory records has become extremely valuable to establishments requiring cost analysis and reporting.

## **RESEARCH AND STATISTICS DIVISION**

The Division continued to give special attention to problems connected with the introduction of hospital insurance under the Hospital Insurance and Diagnostic Services Act of 1957 and to work in the field of ionizing radiation. Routine collection, analysis and evaluation of data on health and welfare subjects and assistance in defining methods to deal with administrative problems were expanded to meet new research needs of the department. A number of reports were prepared for United Nations agencies and liaison was continued with, and reports prepared for, health and welfare agencies in other countries. A comprehensive study of social development in Canada for the United Nations was completed with the aid of a number of federal and other agencies. Articles were prepared on Canada's health and welfare services for publication in journals, information sheets and other media. Programs were arranged for a number of persons coming to Canada to study different aspects of health and welfare services.

### **Hospital Insurance**

The Division participated actively in planning connected with the passing, on 10th of April, 1957, of the federal Hospital Insurance and Diagnostic Services Act and with the implementation of the Act.

Hospital cost estimates for each province were developed prior to the introduction of the program, in co-operation with officials in all provinces. Members of the Division visited the Atlantic provinces, Ontario and each of the four western provinces to discuss problems relating to hospital cost estimates and financial procedures, and memoranda and relevant statistical data were prepared to assist in individual discussions with representatives of the different provinces concerned.

Members of the Division served on departmental and interdepartmental committees concerned with the preparation of the federal regulations, the federal-provincial agreement and supporting documents to be used in administering the Act, and studies and memoranda were prepared for use in considering the nature and form of these documents. Special administrative and statistical documentation was also prepared for the federal-provincial technical conferences on hospital insurance convened in December 1957 and in April-May 1958.

### **Health Care**

The Division also continued its work in maintaining current information on public and voluntary hospital and medical plans. The bulletin *Health Services for Public Assistance Recipients in Canada*, published in September 1957, provided comprehensive descriptions of the financing and administration of services in each province. A study of medical group practice in Canada was completed for publication during the year. Studies were also continued of health expenditures in Canada, with particular reference to hospital and medical care and the impact of public and voluntary insurance plans on the financing of services. Information and technical advice on health care programs were supplied to other departments of government, to health and welfare agencies, to labour and other organizations and to individuals.

### **Public Health and Hospital Services**

Continuing analysis was carried on of hospital bed requirements and construction costs and progress in connection with the Hospital Construction Grant. Data were supplied on federal hospital care programs for Indians, Eskimos and sick mariners affected by the hospital insurance program, and studies were made of the cost implications of different health services.

At the request of the Mental Health Division, the Division conducted a national survey of psychiatric services in general hospitals. Questionnaires were circulated to more than 400 hospitals, the replies compiled and a report published in the *Canadian Medical Association Journal*, issue of May 15, 1958.

Several studies of health legislation were carried out during the year, including a detailed report, *Legislation Governing Admission Procedures to Mental Hospitals in Canada*, prepared for mental health directors and university departments of psychiatry, and a summary of certain aspects of provincial industrial health legislation for the Occupational Health Division.

### **Rehabilitation**

Work was continued on the bulletin, *Rehabilitation Services in Canada*, which it was expected would be published in 1958-59. During the year, federal, provincial and voluntary services in 9 provinces were reviewed.

Trends under the Medical Rehabilitation and Crippled Children's Grants were kept under study, and several special studies of grant utilization and federal-provincial rehabilitation expenditures were carried out at the request of the department's Medical Rehabilitation and Disability Advisory Service and the National Co-ordinator of Rehabilitation.

### **Chronic Disease Services**

The Division continued to assemble reference material on chronic disease programs, health services for the aged, home care programs, crippled children's services, and the programs of the national voluntary health agencies dealing with different aspects of chronic disease services. At the request of the Hospital Insurance Administration, detailed studies of home care programs for long-term patients in Canada and other countries were launched. A report on Canada's health services for aged persons, for departmental use, included a review of legislation governing hospital and institutional accommodation for the aged and chronically ill.

### **Welfare Services**

The Division continued to carry out studies of welfare and related services. In the field of child welfare a reference document was prepared with a view to publication, to meet numerous requests for information on child welfare services in Canada. A study of problems of reporting on adoption programs was undertaken as part of a continuing project on child welfare reporting and statistics. Family welfare problems receiving study included measures to protect the family deserted by the breadwinner, the provision of homemaking services and the administration of mothers' allowances programs. The ability of community welfare services to meet changing needs and effectively to reach groups with special needs such as immigrants and juvenile offenders received study.

Technical and consultative services in the fields of family, child and community welfare were provided to government departments and social agencies on a number of questions, including the selection of categories to be used in statistical reporting on mothers' allowances, the analysis and tabulation of unfilled requests for homemakers' services, licensing provisions required to ensure adequate standards in children's institutions and the relevance of training in Canadian schools of social work as preparation for community development work in under-developed countries.

The report *Services For the Aged in Canada*, was published and distributed during the year. It was designed to meet a widely expressed demand for information on existing statutory programs for the elderly and on developments in voluntary services at the national, provincial and local levels. Further study was given to services for the elderly, including housing, institutional facilities and boarding home care.

### **Income Security**

The Division assisted in the preparation of estimates of costs and caseloads relating to increases made during the year in the rate of and reduction in residence requirements for old age security and the federal-provincial income security programs and to increases in income limits under the latter programs. Published material was revised to reflect amendments in the various acts as well as changes in provincial supplementary allowances following on these amendments.



Research was carried on in social security expenditures at all levels of government in Canada and a brief report was prepared for departmental use. Considerable work was done in preparing data on expenditures at all levels of government for the years 1953-54 to 1958-59.

Statistical summaries on unemployment assistance were regularly prepared for the Welfare Branch and for other departments and persons. The Division worked closely with the administrator on a number of problems and particularly on the preparation of cost estimates involved in removal of the threshold.

Assistance was also given to the Canadian Welfare Council in the preparation of factual background material on social security in Canada for the conference on social security called by the Council in January 1958, and in the preparation of the report of the Conference.

### **Disability Allowances**

The Division continued to keep records of persons granted Disability Allowances, those medically rejected and those referred for rehabilitation. Total caseload was 60 per cent heavier than in the previous year.

A statistical bulletin on disability allowances, giving data on all cases accepted, rejected, referred for rehabilitation and deferred, during the first 15 months of the program, was completed, and, together with a brief preliminary analysis of the cases granted allowances for the fiscal year 1956-57, appeared in June 1957. A summary analysis of all new cases in 1956-57, including a list of all primary disabilities found in 100 or more cases, was prepared for the annual report on the program.

### **Employee Pension Plans**

The Supervisor of the Income Security Section continued to serve as secretary to the Interdepartmental Committee on Pension Plans and the Employment of Older Workers, which published the bulletin *Pension Plans and the Older Worker* during the year. He also served on the sub-committee of the interdepartmental committee on pension plan statistics which produced its final report for the Dominion Statistician. A number of documents, memoranda and letters were prepared on pension plans for departmental use and in answer to requests.

### **Radiation Research**

In collaboration with the Radiology Department of the Ottawa Civic Hospital an examination was made of characteristics of persons receiving diagnostic radiological examinations, the relative frequency of examinations of various parts of the body and other data relevant to estimation of average gonad radiations dose. A project was carried out with the Division of Applied Physics of the National Research Council which involved an extensive series of gonad and skin dose radiation measurements, on phantoms and in practice, with a view to assessment of pertinent factors in diagnostic radiology.

A pilot project was carried out in collaboration with the Dominion Bureau of Statistics on identification of first cousin marriages by visual screening of marriage certificates and search of birth certificates to determine the feasibility of a proposal to use national vital statistics for the identification of family relationships which may be applied to genetic problems resulting from radiation hazards.



**Biostatistical Consultative and Technical Services**

The study, for the Epidemiology Division, of mortality experience of DVA pensioners and their dependents in relation to smoking habits, residence and occupational history was continued. In collaboration with the Dental Health Consultant, analysis of results of the 1957 Sarnia-Brantford-Stratford Dental Health Surveys of school children was completed. Further work was done during the year on the development of physique classification charts for use in connection with a series of tests being carried out under the direction of the Consultant in Physical Fitness. Assistance was given to the Verdun Protestant Hospital in two studies.

An outline of different sections of the Canadian Sickness Survey Report and of the appropriate tabulations and analysis were prepared. Enquiries were answered from interested organizations in Canada and other countries respecting various aspects of the Survey, particularly concerning methodology and practical difficulties in its conduct, and with respect to dental health data.

**Health Personnel**

Memoranda were prepared on physician immigration and emigration, population-physician ratios in various countries, and estimates for Canada in 1961. Extensive analytical tabulations were completed of data obtained on nursing staff activities in the Montreal Notre Dame Hospital study. Assistance and advice were provided to the Canadian Nurses Association with respect to an evaluation of referral systems. Memoranda were prepared with respect to the Physicians Register and Survey system, and regarding the education of health personnel in Canada. Some assistance was given in connection with the Survey of General Practice of the College of General Practice.

**International Technical Co-operation**

The Director was loaned for some months to the Pan American Sanitary Bureau as a research consultant and co-ordinator of a team undertaking a survey of health services and resources in Costa Rica. With Costa Rican officials he planned the nature and scope of the survey, determined on the type of consultants required on the survey team, and initiated the collection and assembly of the various types of statistical data and background information required by the survey team. In addition to the Director, the survey team included 3 consultants in the fields of environmental sanitation and public health administration.

# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

## MINISTER

HONOURABLE J. WALDO MONTEITH

*Parliamentary Assistant, C. E. Halpenny, M.P.*

*Executive Assistant, C. Keedwell*

*Private Secretary, D. H. Dunsmuir*

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Deputy Minister of National Health and Welfare (Health)

G. D. W. Cameron, M.D., C.M., D.P.H., LL.D.

Deputy Minister of National Health and Welfare (Welfare)

G. F. Davidson, B.A., M.A., Ph.D., LL.D.

## HEALTH BRANCH

### FOOD AND DRUG DIVISIONS:

FOOD AND DRUG DIRECTORATE—*Director, C. A. Morrell, M.A., Ph.D., F.R.S.C.*

*Assistant Director (Scientific Services), L. I. Pugsley, B.A., M.Sc., Ph.D.*

*Assistant Director (Administrative and Inspection Services), P. A. Faguy.*

*Proprietary or Patent Medicines Division, Chief, Paul Soucy, Phm.B.*

NARCOTIC CONTROL DIVISION—*Chief, K. C. Hossick.*

### HEALTH SERVICES:

*Director, K. C. Charron, M.D.*

#### CONSULTANT SERVICES

Blindness Control Division, *Chief, J. H. Grove, M.D.*

Child and Maternal Health Division, *Chief, Jean F. Webb, B.Sc., M.D., D.P.H.*

Dental Health Division, *Chief, H. K. Brown, D.D.S., D.D.P.H.*

Hospital Design Division, *Chief, H. G. Hughes, B.Arch., A.R.I.B.A., M.R.A.I.C.*

Mental Health Division, *Chief, J. E. Gilbert, M.B., B.S., M.R.C.S., L.R.C.P.*

Nutrition Division, *Chief, L. B. Pett, B.S.A., M.A., Ph.D., M.D., C.P.H.*

*Chief Nursing Consultant, D. M. Percy, R.R.C., Reg.N.*

#### ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS

*Principal Medical Officer, E. A. Watkinson, M.D., C.M., D.P.H.*

Occupational Health Division, *Chief, T. H. Patterson, M.D., D.P.H., M.P.H.*

Public Health Engineering Division, *Chief, J. R. Menzies, B.A.Sc., O.L.S., C.E.*

#### HEALTH INSURANCE STUDIES

*Acting Principal Medical Officer, E. H. Lossing, M.D., M.P.H.*

#### NATIONAL HEALTH GRANTS

*Principal Medical Officer, G. E. Wride, M.D., D.P.H.*

#### RESEARCH DEVELOPMENT

*Principal Medical Officer, B. D. B. Layton, M.D., M.P.H.*

Epidemiology Division, *Chief, D. Kubryk, M.D., D.P.H.*

Laboratory of Hygiene, *Director, J. Gibbard, B.S.A., S.M., F.R.S.C.*

### INDIAN AND NORTHERN HEALTH SERVICES:

*Director, P. E. Moore, M.D., D.P.H.*

*Associate Director, H. A. Procter, D.S.O., M.D., Ph.D.*

*Assistant Director, W. B. Brittain, B.Sc.*

**MEDICAL ADVISORY SERVICES:**

*Principal Medical Officer*, R. G. Ratz, M.B.

Civil Aviation Medicine Division, *Chief*, W. A. Prowse, M.D., C.M., D.P.H.

Civil Service Health Division, *Chief*, E. L. Davey, M.D., D.P.H.

Quarantine, Immigration Medical and Sick Mariners Services, *Chief*, H. D. Reid, M.D.

**WELFARE BRANCH**

*Executive Assistant (Welfare)*, Mrs. D. B. Sinclair, O.B.E., B.A., M.A., LL.D., D.Sc.Soc., L.H.D.

*Consultant, Fitness and Recreation*, Doris W. Plewes, M.A., B.Paed., Ed.D.

**FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION**

*Acting National Director*, J. Albert Blais.

*Regional Directors—*

*Newfoundland*; J. G. Parsons, St. John's.

*Prince Edward Island*; A. S. Tait, Charlottetown.

*Nova Scotia*; P. H. Stehelin, Halifax.

*New Brunswick*; A. Nicholson, Fredericton.

*Quebec*; Lionel Lafrance, Quebec.

*Ontario*; F. C. Jackson, Toronto.

*Manitoba*; C. B. Howden, Winnipeg.

*Saskatchewan*; G. P. Allen, Regina.

*Alberta*; H. C. L. Gilman, Edmonton.

*British Columbia*; W. R. Bone, Victoria.

*Yukon and Northwest Territories*; Miss Norma O'Brien, Ottawa.

**OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS—***Director*, J. W. MacFarlane.

**CIVIL DEFENCE**

*Deputy Co-ordinator*, G. S. Hatton, C.B., D.S.O., O.B.E.

*Chief Administrative Officer*, M. P. Cawdron, M.A., B.Sc.

**ADMINISTRATION BRANCH**

**SECRETARY'S DIVISION**, *Departmental Secretary*, Miss O. J. Waters.

**INFORMATION SERVICES DIVISION**, *Director*, Harvey W. Adams.

**LEGAL DIVISION**, *Legal Adviser*, R. E. Curran, Q.C., B.A., LL.B.

**LIBRARY**, *Departmental Librarian*, Miss M. D. Morton, B.H.Sc., B.L.S.

**PERSONNEL DIVISION**, *Chief*, J. F. Maxwell.

**PURCHASING AND SUPPLY DIVISION**, *Chief*, J. A. Hickson.

**RESEARCH AND STATISTICS DIVISION**, *Chief*, J. W. Willard, Ph.D., M.A., M.P.A., A.M.

**TRANSLATION OFFICE**

*Chief*, G. A. Sauve

**TREASURY OFFICE**

*Chief*, T. F. Phillips

**DIRECTORY OF DEPARTMENTAL ESTABLISHMENTS****ADMINISTRATIVE OFFICES****OTTAWA**

Jackson Building, Bank Street  
 Birks Building, Sparks Street  
 Booth Building, Sparks Street  
 Garland Building, Queen Street  
 No. 3 Temporary Building, Wellington Street  
 Trafalgar Building, Queen Street  
 Daly Building, Mackenzie Avenue

**CIVIL DEFENCE COLLEGE**

ARNPRIOR, Ont.—P.O. Box 2050

**FAMILY ALLOWANCES AND OLD AGE SECURITY**

ST. JOHN'S, Nfld. ....29 Buckmasters' Field  
 CHARLOTTETOWN, P.E.I. ....59 Queen Street  
 HALIFAX, N.S. ....Industrial Building  
 FREDERICTON, N.B. ....Federal Building  
 QUEBEC, Que. ....51 Boulevard des Capucins  
 TORONTO, Ont. ....122 Front Street West  
 WINNIPEG, Man. ....138 Portage Ave. East  
 REGINA, Sask. ....Dominion Government Building  
 EDMONTON, Alta. ....10182 103rd Street  
 VICTORIA, B.C. ....Federal Building

**FOOD AND DRUG LABORATORIES**

OTTAWA, Ont. ....Tunney's Pasture  
 HALIFAX, N.S. ....Dominion Public Building  
 MONTREAL, Que. ....379 Common Street  
 TORONTO, Ont. ....27-39 St. Clair Ave. East  
 WINNIPEG, Man. ....Aragon Building  
 VANCOUVER, B.C. ....Federal Building

**FOOD AND DRUG OFFICES**

OTTAWA, Ont. ....Tunney's Pasture  
 HALIFAX, N.S. ....Dominion Public Building  
 CHARLOTTETOWN, P.E.I. ....100 Fitzroy Street  
 SAINT JOHN, N.B. ....250 Prince William Street  
 SYDNEY, N.S. ....Naval Administration Building  
 ST. JOHN'S, Nfld. ....T.A. & B. Society Building  
 QUEBEC, Que. ....375 Dorchester Street  
 THREE RIVERS, Que. ....Post Office Building  
 SHERBROOKE, Que. ....315 King Street West  
 MONTREAL, Que. ....379 Common Street  
 TORONTO, Ont. ....27 St. Clair Ave. East  
 BELLEVILLE, Ont. ....12 Bridge Street East  
 HAMILTON, Ont. ....Federal Building

KITCHENER, Ont. ....	Dominion Public Building
LONDON, Ont. ....	Dominion Public Building
WINDSOR, Ont. ....	Dominion Public Building
SUDBURY, Ont. ....	Federal Building
PORT ARTHUR, Ont. ....	33 Court Street South
WINNIPEG, Man. ....	Aragon Building
SASKATOON, Sask. ....	219-22nd Street East
REGINA, Sask. ....	Federal Building
CALGARY, Alta. ....	Customs Building
EDMONTON, Alta. ....	Post Office Building
KAMLOOPS, B.C. ....	345 Victoria Street
VANCOUVER, B.C. ....	Federal Building
VICTORIA, B.C. ....	805 Government Street

### IMMIGRATION MEDICAL SERVICE OFFICES

#### Canada

GANDER, Nfld. ....	Gander Airport
HALIFAX, N.S. ....	Immigration Building, Pier 21
MONCTON, N.B. ....	Moncton Airport
MONTREAL, Que. ....	379 Common Street and Dorval Airport
QUEBEC, Que. ....	Immigration Hospital, Quebec-West
SAINT JOHN, N.B. ....	Pier 9, Immigration Building
ST. JOHN'S, Nfld. ....	Marshall Building, Water Street, P.O. E5109
STEPHENVILLE, Nfld. ....	Harmon Field Airport
TORONTO, Ont. ....	737 Church Street and Malton Airport
VANCOUVER, B.C. ....	Immigration Building, foot of Burrard St. and Sea Island Airport
VICTORIA, B.C. ....	Immigration Building
WINDSOR, Ont. ....	Windsor Airport
WINNIPEG, Man. ....	Winnipeg Airport

#### Overseas

LONDON, England ....	61 Green Street, Mayfair, W.1
BELFAST, Northern Ireland ....	65 Chichester Street
GLASGOW, Scotland ....	18 Woodlands Terrace, C.3
LIVERPOOL, England ....	34 Moorfields, Liverpool 1
BRUSSELS, Belgium ....	230 rue Royale
PARIS, France ....	38 Avenue de l'Opéra
ROME, Italy ....	Via Nimorense, 90
THE HAGUE, Holland ....	12 Carelvan Bijlandtlaan
COPENHAGEN, Denmark ....	Vestagervej 5
KARLSRUHE, Germany ....	Canadian Government Immigration Mission, 11 Redtenbacherstrasse
HANOVER, Germany ....	10 Kirchoederstrasse



BERLIN, Germany .....	Canadian Government Immigration Mission, Berlin-Zehlendorf, Berliner Str. 25
MUNICH, Germany .....	Canadian Government Immigration Mission, Funk Kaserne, Block 1, Freimannerstrasse 218, Meunchen- Freimann
HAMBURG, Germany .....	Canadian Government Immigration Mission, Admiralitaetstrasse, 46
VIENNA, Austria .....	Canadian Legation Visa Section, Tuch- lauben 8, Vienna
ATHENS, Greece .....	18 Anagnostopoulov St. Kolonaki

### SICK MARINERS CLINICS AND HOSPITALS

HALIFAX, N.S. ....	Immigration Building, Pier 21
SYDNEY, N.S. ....	Marine Hospital
SAINT JOHN, N.B. ....	Pier 9
QUEBEC, Que. ....	Louise Basin
MONTREAL, Que. ....	379 Common Street
VANCOUVER, B.C. ....	Immigration Building

### QUARANTINE STATIONS AND SUB-STATIONS

HALIFAX, N.S. ....	Pier 21 and Rockhead Hospital
SAINT JOHN, N.B. ....	Pier 9 and Quarantine Hospital, Lancaster, N.B.
QUEBEC, Que. ....	Louise Basin and Quarantine Hospital, Quebec-West
MONTREAL, Que. ....	379 Common Street and Dorval Airport
VANCOUVER, B.C. ....	Immigration Building and Sea Island Airport
VICTORIA, B.C. ....	William Head, B.C.
GANDER, Nfld. ....	Gander Airport
THREE RIVERS, Que. ....	Sub-stations under direction of Quarantine Officer in Charge of Quebec. There is a Quarantine Officer ap- pointed in each port.
SOREL, Que. ....	
RIMOUSKI, Que. ....	
PORT ALFRED, Que. ....	
SEVEN ISLANDS, Que. ....	

### LABORATORIES OF HYGIENE

OTTAWA, Ont. ....	45 Spencer Street and Tunney's Pasture
-------------------	--

### OCCUPATIONAL HEALTH LABORATORIES

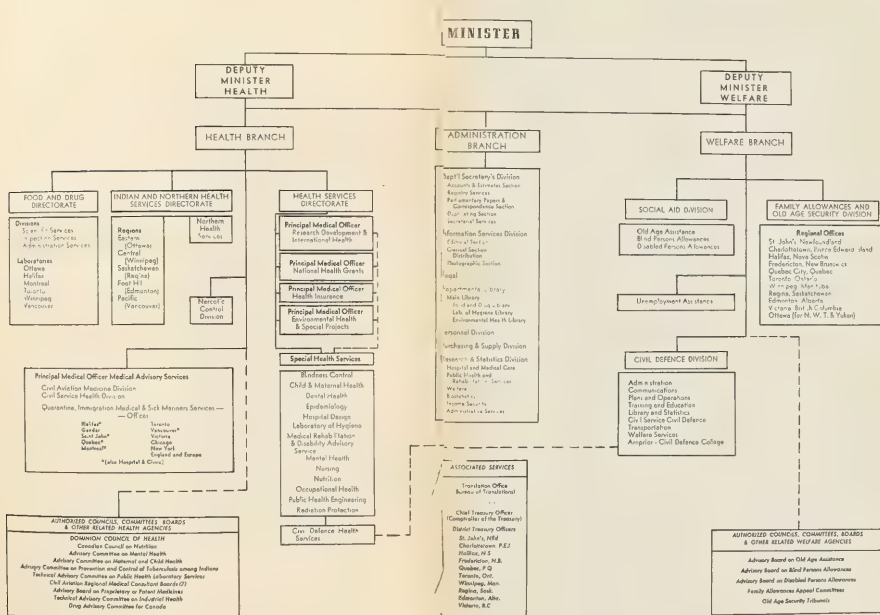
OTTAWA, Ont. ....	200 Kent Street Health Radiation Laboratory, Lauren- tian Building
-------------------	--

**PUBLIC HEALTH ENGINEERING DISTRICT OFFICES**

TRURO, N.S. ....	515 Prince Street
MONCTON, N.B. ....	Post Office Building
MONTREAL, Que. ....	379 Common Street
ST. CATHARINES, Ont. ....	4th Floor, Dominion Building
PORT ARTHUR, Ont. ....	Post Office Building
WINNIPEG, Man. ....	Scientific Building, 425½ Portage Avenue
REGINA, Sask. ....	Federal Building
EDMONTON, Alta. ....	Post Office Building
VANCOUVER, B.C. ....	Begg Building, 110 West Georgia Street



# DEPARTMENT OF NATIONAL HEALTH & WELFARE







4094





# ANNUAL REPORT

DEPARTMENT

OF

NATIONAL HEALTH

AND

WELFARE

THE FISCAL YEAR ENDED MARCH 31

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CANADA

THE DEPARTMENT OF  
NATIONAL HEALTH AND WELFARE

# ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31

**1959**

The Queen's Printer and Controller of Stationery  
Ottawa, 1959



Price 50 cents      Cat. No. H1-359  
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To His Excellency the Right Honourable Vincent Massey, C.H.,  
Governor General and Commander-in-Chief of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1959.

Respectfully submitted,

J. WALDO MONTEITH,  
*Minister of National Health and Welfare.*



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*To the Honourable J. Waldo Monteith, F.C.A., M.P.,  
Minister of National Health and Welfare, Ottawa.*

SIR:

We take pleasure in submitting this report of the Department's activities for the fiscal year 1958-59.

The period under review witnessed important progress in all three areas of departmental responsibility. As in the previous year, the main developments on the health side pertained to implementation of the Hospital Insurance and Diagnostic Services Act. On June 26, 1958, Royal Assent was accorded an amendment to the Act, permitting payment of federal funds as of July 1 to any province having signed an Agreement with the Federal Government and having a plan in operation on that date. Programs were initiated in five provinces on Dominion Day. These were British Columbia, Alberta, Saskatchewan, Manitoba and Newfoundland. Two others—Ontario and Nova Scotia—were in a position to commence operations on January 1, 1959. The orderly manner in which this very complicated measure was brought into being in a large part of the country is a tribute to the excellent co-operation which has been developed over the years among Canadian health authorities.

A second important development in the Department's health activities was the increase in federal assistance under the Hospital Construction Grant. Introduced near the end of the previous fiscal year, this re-enforcement and extension of financial aid to the provinces appears to have been helpful in the provision of adequate hospital facilities throughout Canada. A measure of its effect was evident in the fact that federal approvals under the Grant during 1958-59 increased by more than \$17 million as compared with 1957-58, and covered an all-time high of 12,000 new beds or their equivalents.

Increased federal outlays were also apparent in the major welfare measures administered by the Department. Amounting to over \$100 million, these increases reflected the impact of the first full year of higher levels of benefit initiated during 1957-58 in Old Age Security, Old Age Assistance, Blind Persons Allowances and Disability Allowances, as well as the broader base of federal participation in provincial-municipal Unemployment Assistance payments.

A comprehensive survey of our income maintenance programs for the aged and handicapped, together with a comparison between Canadian programs and corresponding measures in the United States, was completed as the year drew to a close. Prepared by Dr. Robert M. Clark of the University of British Columbia, this survey was tabled in Parliament on March 5, 1959 and referred to departmental and other government officials for study.

On the matter of Civil Defence, a significant realignment of responsibilities was announced by the Prime Minister on March 23, 1959. Affecting both the purely federal structure and the federal-provincial partnership, the proposed new arrangements stemmed from an intensive reappraisal of measures to protect our civilian population against possible nuclear attack. Considered in this regard were recommendations presented by Lt.-Gen. Howard D. Graham, former Chief of Staff of the Canadian Army, who in June 1958 had been assigned the task of surveying "all aspects of Canada's Civil Defence policy and program".

In general terms, the new arrangements will allot to the Federal Government responsibility for certain highly technical and dangerous tasks associated with possible nuclear attack, and to the provinces and municipalities those functions which they normally perform in peacetime and for which they are better equipped by knowledge and experience than the federal authority. This Department will continue to assist the provinces in all matters relating to Civil Defence health and welfare services, while other federal functions will be distributed among the Department of National Defence, the Royal Canadian Mounted Police, and the Emergency Measures Organization in the Privy Council Office, the latter taking over liaison with the provinces as well as co-ordination of the Civil Defence effort. The federal share of approved projects under the Financial Assistance Program will be raised from 50 to 75 per cent of provincial-municipal outlays. On March 26, as the fiscal year under review approached its end, the Prime Minister communicated with provincial premiers, suggesting a joint conference in April to discuss the federal proposals.

In concluding this letter of transmittal, we would draw attention to the contribution made by the staff of the Department. Their loyalty and devotion to duty have played a large part in what has been achieved in the period covered by this report.

Respectfully submitted,

G. D. W. CAMERON,  
*Deputy Minister of National Health  
and Welfare (Health)*

G. F. DAVIDSON,  
*Deputy Minister of National Health  
and Welfare (Welfare)*

Ottawa, Canada.

# HEALTH BRANCH

## INTRODUCTION

From time to time, foreign visitors to the Department of National Health express surprise and some difficulty in understanding the lack of authority of the Department in what seem to be many of the most important fields of the public health, such as control of hospitals, control and licensure of medical practice, medical education or even the provision on the local level of services ordinarily spoken of as "public health" services. How can a Federal Government agency carrying so little authority exercise effective control or maintain standards over a wide range of health activities on a national basis?

The answer, of course, is that there is very little federal control of any kind exercised and then only in those limited areas which must of necessity be considered in a national rather than a provincial or local context. While the Department is therefore charged by statute with the responsibility of administering certain Acts and executive orders, the real authority and responsibility in most fields of health falls to the provinces.

This is not to say, however, that the Department of National Health exercises no effective influence in the broad national sphere of health services and medical care. Indeed, the concept of virtual provincial sovereignty which our friends from abroad find so illogical or even confusing in contrast to their own organization, may free the Federal Department in Canada of many administrative responsibilities and details which, in a country of such vast extent, can be most satisfactorily dealt with on a regional or local level. In other words, the Department's resources can, to a maximum extent, be devoted to promotion, financial and technical assistance and co-ordination of the programs of the various provinces.

This is essentially the part the Department plays in Canadian health and in the pages which follow, the reports on activities of the various directorates and divisions will illustrate this constant trend toward central co-ordination and decentralized executive authority. Those functions which are based on statutory responsibility are clearly indicated. For the remainder, the reader will readily discern the relative emphasis placed on promotion of adequate standards, technical or financial assistance or co-ordination of provincial activities.

An excellent example of the last is presented by the Dominion Council of Health, representative not only of all the provincial health departments but of influential bodies such as organized labour and women's organizations as well, which meets semi-annually under the chairmanship of the Deputy Minister to advise the Minister on health matters of national concern. To the Council's agenda are brought not only matters which demand central planning or executive action but also a host of local problems which, while they may or may not be common to many or all the provinces, can be discussed with benefit and frequently resolved in a uniform manner.

The Canadian Council on Nutrition and Maternal and Child Health Advisory Committee are further examples of the co-ordinating influence of the Department



in providing forums to which may be brought matters of general interest, opportunities for discussion and a valuable source of specialist counsel and recommendations in special fields of health.

The relative uniformity achieved in the Hospital Insurance plans of seven of the provinces which were instituted during the year and the continued successful promotion of the polio immunization program for all provinces demonstrate clearly how central co-ordination can effectively assist local executive action in achieving advances and better standards of national health.

There have been no outstanding new developments in Public Health within the year. The formal acceptance by seven of the provinces of the Federal Government's offer to participate in the costs of Hospital Insurance Plans perhaps marks a noteworthy milestone on the long road to better medical care for more Canadians. On the whole, the plans are being inaugurated with a minimum of confusion and disruption of traditional organization. The benefits of careful and effective preliminary planning are, of course, now apparent and generally the transition is taking place quietly and smoothly.

Appended is a breakdown of the total estimates for the Health Branch for the year under review as well as the preceding year, for purposes of comparison.

As usual over one half of the Department's annual budget is devoted to Health Grants and financial assistance to provincial programs. Nearly a third is devoted to health care for Indians and Eskimos and public health services to unorganized territories—still unable to provide them from local resources. While statutory obligations consumed almost 10 per cent of the total budget the administration of the Branch was accomplished at the modest cost of 0.3 per cent of total estimates.

### NATIONAL HEALTH BRANCH ESTIMATES

For 1958-59 and 1957-58				
	1958-59	Percentage	1957-58	Percentage
STATUTORY OBLIGATIONS .....	\$ 7,052,572	8.6	\$ 6,691,572	9.7
Quarantine and Leprosy.				
Immigration Medical Services.				
Sick Mariners Treatment Services.				
Public Health Engineering.				
Civil Service Health.				
Administration of the Food and				
Drugs and the Proprietary or				
Patent Medicine Acts.				
Administration of the Opium and				
Narcotic Drugs Act.				
CO-OPERATION WITH PROVINCES .....	2,432,871	3.0	2,187,015	3.2
Laboratory of Hygiene.				
Occupational Health.				
Epidemiology.				
Special Technical Services.				
Health Insurance Studies.				
MISCELLANEOUS GRANTS .....	212,450	0.3	182,450	0.3
GENERAL HEALTH GRANTS .....	48,000,000	58.8	38,250,000	55.5
INDIAN HEALTH SERVICES .....	20,723,423	25.3	20,053,723	29.0
NORTHERN HEALTH SERVICES .....	3,025,444	3.7	1,380,994	2.0
NATIONAL HEALTH BRANCH				
ADMINISTRATION .....	230,370	0.3	196,602	0.3
	<u>\$81,677,130</u>	<u>100.0</u>	<u>\$68,942,356</u>	<u>100.0</u>

## FOOD AND DRUG DIRECTORATE

### GENERAL

Probably no legislation more intimately affects the lives of every Canadian than the Food and Drugs Act and the Proprietary or Patent Medicine Act. These Acts govern the safety, purity and quality as well as the labelling and advertising of all foods, drugs, cosmetics and medical devices. All drugs, cosmetics and medical devices must be safe to use according to directions and there must not be fraud in their promotion. Foods must be wholesome and nutritious and advertised in a manner which is not misleading as to their true value. The organization which has been established over the years since the initial legislation in 1875, includes the Ottawa headquarters and regional offices located at five principal production and importation centres across Canada. Attached to each regional office is a laboratory and also a number of inspectors located at various points in the territory. At headquarters, in addition to the Research Laboratories, there are the Administrative Services, Inspection and Enforcement Services and the Director's Staff which includes the Medical Section and the Consumer Relations Section. The protection under these Acts costs each Canadian about ten cents per year.

The food and drug field is not static; each year brings a host of new developments. More pesticides are developed which may result in a residue in food supplies. Chemical additives are proposed for improving the keeping qualities, texture and appearance of foods. The research laboratories of the pharmaceutical industry produce a constant flow of new drug products. The whole retailing picture is changing and new types of packaging are developed. Since July, 1954 when the Food and Drugs Act first included clear-cut authority for factory inspection, a steady improvement in the conditions in both industries has become evident. By factory inspection, it is possible to remove constant sources of error and contamination. Although it has been the policy to attempt to obtain compliance with the legislation by educational and voluntary measures, it was again found necessary to proceed with a number of prosecutions. During the period under review, some large seizures were made and all cases were carried to successful conclusion.

The Food and Drugs Act applies to both imported and domestic food and drug products. The domestic products are controlled by factory inspection and analysis of market samples. Imports are checked at the border on entrance to Canada. It has been estimated that 3 per cent of all import shipments are products which come within the jurisdiction of this legislation. The checking of import shipments for compliance with the requirements of the Food and Drugs Act and Regulations is one of the largest and least spectacular of the functions of this Directorate, yet it is one of the most important functions if the health and pocketbooks of the Canadian public are to be guarded. The Directorate takes an active interest in legislation, standards and methods of analysis of foods and drugs in effect in foreign countries or established by international authorities. It is recognized that the Food and Drugs Act is international to the extent that it applies to imports. Wherever possible, unnecessary differences in standards are eliminated.

A newspaper report indicating that a vaccine prepared in a foreign country was useful in the treatment of multiple sclerosis resulted in attempts by a number

of persons suffering from this serious affliction to import this product. It was refused entry because the manufacturer had not filed any information with the Directorate regarding its safety of use and details of manufacturing processes and controls; and information in the medical journals indicated that it had little or no value. This action was supported by the medical advisers of the Multiple Sclerosis Society of Canada.

Continued reports were received during the year regarding abuse by certain individuals of the so-called tranquilizer or ataractic drugs. In general, these drugs are not dangerous *per se* but it does appear that some individuals may develop a dependence on them and some others use them to obtain a thrill and are then not responsible for their actions. Accordingly a Prescription Drug Sub-Committee has been established under the Canadian Drug Advisory Committee to study the situation and make recommendations regarding the control of these drugs. This Sub-Committee held two meetings early in 1959 to consider appropriate action.

It is interesting to note that the annual reports for this Directorate for five years have included comments on the problem of accidental poisonings. The original interest in this subject was to determine whether more rigid control was necessary in the drug field, but it was discovered at the same time that a large proportion of the substances involved were not drugs but household chemicals. No legislation exists to require adequate labelling for these products. In the absence of adequate legislation, the poison control program was inaugurated to provide an immediate partial remedy and to obtain information on the extent of the problem. Indications are that there may be as many as a thousand hospital admittances or emergency treatments of accidental poisonings for each reported death.

There are now 38 Poison Control Centres distributed in the ten provinces. They provide a continuous source of information on the nature of poisons in commercial preparations, and on the treatment of poisoning due to their ingestion. Because all centres are located in hospitals they actually give both information and treatment. The contribution of the Food and Drug Directorate, in addition to setting up the information system and keeping it up to date, is to act as a central clearing-house that summarizes reports, pools information and resources, and passes it on to the centres. Four quarterly reports were mailed to the centres covering some 4,736 cases of poisoning. An Information Manual for Poison Control Centres was published and distributed to those engaged in poison control activities. It contains all the information originally on cards, plus additions on first-aid and therapeutic measures and the name and toxic ingredients of some 5,000 proprietary medicines and common household chemical articles.

In addition to its normal function of telling the public about the objectives of the Food and Drugs Act, considerable effort was devoted by the Consumer Relations Section to educating consumers in the prevention of poisoning accidents in the home. It is felt that the most effective way of curbing the mounting number of poisoning accidents involving household chemicals and affecting, with few exceptions, children in the lower age group, is to impress upon the parents safe methods of handling and storing these products. To this end, talks were given to parent-teacher, consumer and other groups, usually in conjunction with the showing of the film, *One Day's Poison*; a survey was made of household chemicals



in Canadian homes; a booklet, *Keep Your Home Free from Poisonings* was produced; a small portable display was prepared and assistance given to writers and broadcasters in publicizing the project.

Consumer complaints continue to be a valuable aid in directing the attention of the Directorate to violations and all complaints are investigated.

### **PROTECTION OF THE FOOD SUPPLY**

There seems to be a public demand for more and more convenient food—better and more attractive packaging—improved nutrition and greater diversification of products. To meet these demands, scientists in industry must employ a wide variety of substances which were not formerly contained in foods. All of these developments are watched very closely by government scientists and require constant research, investigation and liaison with industry.

During the year, safe tolerances for 22 insecticides on fruits and vegetables were added to the Food and Drug Regulations, bringing the total to 55. Chemical additives to foods continue to receive careful study and may only be used if they are safe and there is a definite need for them in food supplies.

Inspection of food manufacturing establishments plays a major role in protecting the food supply and 4,724 such inspections were completed. Two of these resulted in legal action which is mentioned in this report under Legal Actions.

Every effort was made to insure that commercial shipments of foods were not allowed to enter the country unless they complied with the Canadian requirements. Almost 20,000 shipments of food were examined, of which 2,614 were found to be unsatisfactory on analysis. This heavy load on a limited staff tended to curtail the amount of time allowed for examination of domestic foods which were limited to 9,775. Of this number, 2,175 were found to be unsatisfactory. This number is misleadingly high and is not representative of the market because the samples were selected from suspected sources.

Labelling and advertising problems were discussed with the firms responsible for the sale of foods and all radio and television commercials were reviewed for these products. The Canadian Broadcasting Act requires all commercials for foods, drugs and cosmetics used on Canadian radio or television stations to be approved by the Department of National Health and Welfare and by a representative of the Canadian Broadcasting Commission. All together, 14,208 radio commercials and 4,088 television commercials were reviewed. In addition, over 12,000 food labels and advertisements were scrutinized during the year.

### **PROTECTION OF THE DRUG SUPPLY**

Protection of the drug supply is accomplished under the Food and Drugs Act and the Proprietary or Patent Medicine Act. The Proprietary or Patent Medicine Act is concerned exclusively with secret formulae medicines sold under proprietary or trade names, and its control rests mainly on registration before marketing and renewal of registration by annual licence. In each case, the formula and claims are reviewed with the help of medical officers, pharmacologists and an Advisory Board established under Section 9 of the Act. The official register now includes 3,006 preparations covered by licences issued to 1,090 manufacturers. This year, 131 new products were registered and 58 were refused. Because most of the

nationally advertised medicines are registered, special attention is given to publicity. Newspaper advertisements, radio and television commercials are kept under constant surveillance and corrective action is taken when necessary.

The Food and Drugs Act supplies to all other drugs including veterinary products, as well as cosmetics and therapeutic devices. This legislation contains many specific and special requirements for certain types of drugs. For example, all of the injectable drugs which are usually considered to be "biologics" are required to be manufactured in premises which have been inspected and a Canadian licence issued for their manufacture. There are 54 firms to which Canadian licences have been issued listing a total of 627 drugs. Thirty of these firms are American, 9 are European and 15 are Canadian. Special attention was given during the year to the labelling of these products and 1,900 inserts and labels were reviewed.

During the year, 180 new drug submissions were received from manufacturers in Canada, the United States, Great Britain, France and Germany. During this period, 156 new drugs obtained clearance due to compliance with the new drug regulations. This number represents a 10 per cent increase over the previous three years and reflects the greater activity in the pharmaceutical industry in Canada and throughout the world. Again this year, the amount of clinical investigation of new drugs in Canada has increased.

The prescription drug survey was continued to determine the extent of compliance with the prescription drug regulations. Over 1,200 attempts were made to purchase these drugs from pharmacists without benefit of a physician's prescription. Sixty-seven of these attempts resulted in unauthorized purchases of prescription drugs. Only two of the 127 drug stores where purchases were made last year repeated this offence.

A total of 482 inspections of drug manufacturing establishments were made with special attention being directed towards those firms where the control procedures have been determined, by previous inspection, to be less than the optimum. Excellent compliance with the parenteral drug regulations was observed this year and a potential health hazard in this field is disappearing.

The labelling of drug products is very important for the information of the user and the advertising must be checked to prevent exorbitant claims from being made. The labelling requirements of the Food and Drugs Act are very specific with regard to certain classes of drugs and there is a total prohibition on the advertisement to the general public of drugs for many serious disorders. In this work, over 7,000 individual labels and advertisements were reviewed during the year and all radio and television commercials were reviewed.

With these routine, comprehensive controls on certain types of drugs before they may be sold and inspection at the source, the Directorate is relieved to some extent of the necessity of checking huge quantities of market samples. There were 1,665 import shipments of drugs and vitamins examined. A small percentage of these was found to be unsatisfactory on analysis but an overwhelming proportion of 90 per cent were not labelled in a satisfactory manner. However, many labelling violations were relatively minor. There were 2,155 samples of domestic drugs and vitamin products examined, of which 633 were found to be unsatisfactory on analysis. Again the labelling was not very satisfactory with about 50 per cent being defective in some respect. These samples are not representative of the market since they were selected from suspect sources. In addition, there were 1,621 samples of suspected narcotic drug preparations submitted by the Royal



Canadian Mounted Police, of which 834 were identified as containing a narcotic drug. The usual, smaller numbers of cosmetics and therapeutic devices were examined during the year.

### **LEGAL ACTIONS**

It was necessary to institute legal proceedings in 132 cases and all were carried to a successful conclusion. Of this number, 47 involved foods and 85 involved drugs. Of the 85 drug prosecutions, 67 were for the illegal sale of prescription drugs. The amount of fines levied was \$18,865, with \$9,030 resulting from the food prosecutions, and \$9,835 resulting from the drug prosecutions.

Although the approach to factory inspection continued to be persuasive and educational, gross unsanitary conditions in a number of abattoirs, even after repeated warnings, necessitated prosecution action. A Nova Scotia and an Ontario food manufacturer were each fined \$1,000 for manufacturing and storing meat under unsanitary conditions.

Last year, one firm pleaded guilty to selling an oil as "olive oil" which was not fully obtained from the fruit of the olive tree and was fined \$1,400. All stock of this oil was seized and forfeited to the Crown. There were 84 separate seizures of this stock of olive oil valued at \$31,613 which was finally disposed of this year by reconditioning and relabelling the product in compliance with the regulations.

The total number of seizures was 206 and the value of goods seized totalled \$130,083. These seizures may be classified as resulting from fraud, unsanitary conditions and health hazards and the respective numbers involved in each class are 145, 7 and 54, with product values of \$82,639, \$493 and \$46,951, respectively.

During the year, manufacturers voluntarily disposed of 45 lots of food valued at \$24,416 and 29 lots of drugs valued at \$2,929. In these cases, the violation was so apparent that the manufacturer followed the suggestion that it be removed from the market without the formalities of seizure.

### **INVESTIGATION AND RESEARCH**

The central laboratory is chiefly concerned with research on methods and investigations on foods, drugs, and cosmetics. The examination of these products for enforcement purposes is conducted in the regional laboratories which are located in Halifax, Montreal, Toronto, Winnipeg and Vancouver. These laboratories also take part in collaborative studies on methods and conduct surveys on special groups of products assigned to them.

The central laboratory in Ottawa is divided into 11 sections, each headed by an expert in his particular field. An animal colony to provide a supply of animals for experimental purposes is also attached to the central laboratory. A brief review of the activities of the individual units is given in the following sections.

#### **Animal Pathology**

Post-mortem examinations were performed on 868 animals, the majority of which were on specific test and 4,354 sections of animal tissues from 20 separate projects were examined microscopically. Other studies carried out to aid in assessing effects of food additives and drugs on experimental animals included blood, bone marrow, and tissue biopsy examinations, and organ function tests.

### ***Biometrics***

The section designed 17 experiments for feeding trials which ranged from the comparison of the nutritive value of specific foods to the long-term effects of certain food additives which might be eaten regularly. Research workers were assisted with the application or interpretation of statistical methods applied to their experimental data. The computations of 32 studies were sufficiently complex that the entire statistical analysis was completed in the section as a service to the research worker. A provisional set of tolerances on the amount of allowable air space in candy bar packages was established.

### ***Biophysics***

X-ray data which will be of value in the identification of unknown compounds has been tabulated on approximately 800 substances. The effects of gamma radiation in inhibiting sprouting on two varieties of potatoes were studied and it was found that storage time and temperature were more influential in the variations observed in the reducing sugars, sucrose and starch than any of the selected irradiation treatments.

### ***Cosmetics and Alcoholic Beverages***

Activity on cosmetics consisted largely of the investigation of consumer complaints. Of the samples examined, which included various creams and powders, deodorants, a shampoo, a children's cold wave, plastic nails and a lash tint, there were only two cases of improper manufacture. All other cases appeared to involve allergic response. Toothpastes were surveyed with special reference to net contents and delivered contents. Discussions with industry resulted in the drafting of an acceptable definition for Vodka which specifies grain or potato spirit as origin and includes charcoal treatment as a means of purification. A minimum alcoholic content of 23 per cent alcohol by volume was agreed upon for liqueurs.

### ***Food Chemistry***

The differential infra-red technique, which was used successfully in the detection of olive oil adulteration, has been adapted for use in determining the presence of foreign fats or oils in butter. In addition, a new technique, that of partition chromatography using a column of silicic acid, has been investigated as a possible method for the detection of the adulteration of fats and oils and the effect of heating on these foods.

A test for the detection of sulphites in meat products has been developed which may be carried out directly by the inspector on the premises where the meat is prepared. A paper chromatographic technique has been developed for the determination of 14 preserving agents which are used in food products. Approximately 500 samples of tea have been examined organoleptically, with only one shipment being refused entry into Canada. Studies on the development of methods for the determination of insecticide residues have been continued and approximately 2,000 samples of fruits and vegetables have been examined. Collaborative studies on maple syrup, vanilla, antioxidants and preservatives have been carried out with other laboratories.

## **Microbiology**

The "Staphylococcus toxin" has been resolved into several specific toxic proteins with distinctive biological and chemical properties. To aid in further study of these toxins, synthetic media optima for the production of specific toxins are being developed. An estimate of the relative safety of cheese under changing conditions of bovine infection has been attained through study of the incidence and multiplication of specific strains of staphylococci in milk and cheese. Studies are in progress to improve tests for the presence of food-poisoning toxins in foods. Possibilities of genetic change among staphylococci in nature are being investigated.

Bacteriological examination of shucked oysters by comparative methods, in collaboration with the United States Public Health Service, has led to adoption of tentative standards based on the preferred value of *E. coli*, type I, as an indication of fecal pollution.

The comparative resistance to gamma irradiation has been determined for a number of bacterial species of public health significance. Exposure to multiple irradiations has led to the emergence of radiation-resistant strains.

## **Organic Chemistry**

A primary problem has been the development of more rapid and effective means of detecting the 84 narcotics now under control in Canada. Methods for enforcement of international control of smuggled opium and marihuana were studied. In the case of smuggled opium, the origins of 40 seizures were determined, by physical-chemical procedures developed in this section at the request of the governments of Australia, India and the United States of America. In collaboration with Crime Detection Laboratories in the United States and Canada, a program for identifying substances found in poison cases was continued. Constituents of essential oils used in perfumery, pharmacy and food flavouring were extensively investigated.

## **Pharmaceutical Chemistry**

Non aqueous titration methods have been developed for the tetracycline antibiotics and most of their pharmaceutical forms, which are more rapid and accurate than the conventional microbiological procedures. In addition, by employing similar principles, improved methods of assay have been developed for tablets, ampoules, suppositories and elixirs of aminophylline and theophylline. Techniques of identification and differentiation have also been devised for certain central nervous system stimulants as well as a group of local anaesthetics.

## **Pharmacology and Toxicology**

It was found that atropine solutions diminish in activity during storage but the ratio of activity to toxicity was not altered. During experimental trials on a problem related to narcotic addiction, it was found that the rate of tolerance development in rats to morphine was not altered by simultaneous treatment with chlorpromazine. The main action of clam toxin was found to be a blockade of the neuromuscular junction of the phrenic nerve and diaphragm but several of the drugs which are known to be effective in relieving neuromuscular blockade possessed no appreciable antidotal effect on the toxin.

The screening of food colours for possible toxic properties continues. During the year, studies on Guinea green, Benzyl violet and Brilliant Blue were completed and tests on Erythrosine, Fast Green and Ponceau 3R were commenced.

Reports that Citral, a constituent of citrus fruits, causes a significant increase in intraocular pressure in rabbits were not confirmed in this laboratory.

Commercial samples of proteolytic enzymes (trypsin, chymotrypsin and thrombin) have been assayed using new synthetic substrates and an improved spectrophotometric procedure which have significantly increased their precision. The activation of trypsin and thrombin by various quaternary ammonium compounds also has been investigated.

### ***Physiology and Hormones***

The results of a two-year stability test have indicated that insulin did not lose activity during this period of time when stored at refrigerator temperature. However, at room temperature or above, within one year, the potency fell well below that declared on the label. Studies were continued on the biological activity of recently-developed anti-inflammatory steroids such as dexamethasone and triamcinolone acetonide which are used for the treatment of rheumatoid arthritis, rheumatic fever, inflammatory diseases of the eye, and allergic skin diseases.

Biological assays of toxic shell-fish extracts were carried out in collaboration with the United States Public Health Service. At the request of the National Institutes of Medical Research in London, England, a collaborative assay was undertaken to determine the potency of the proposed International Standard for prolactin, a lactogenic hormone.

### ***Vitamins and Nutrition***

Particular emphasis this year has been placed on nutritional problems and on studies of the availability to the human body of vitamins and drugs in oral preparations. Also, as a result of emphasis in food advertising, criteria have been established for the regulation of claims made for the protein content of foods.

The rate of release of vitamins and other drugs in sustained release and other timed disintegrating preparations was studied by giving small doses to human subjects and determining the rate at which the drug was excreted in the urine. These studies have shown that there are marked differences in the sustained release properties and physiological availability of the drugs in various forms of these products presently on the market.

## **INDIAN AND NORTHERN HEALTH SERVICES DIRECTORATE**

### ***Role***

The function of this Directorate has been to provide or arrange essential medical care for those Indians and Eskimos who still require assistance in this aspect of their welfare. A vigorous program of public health care has been provided those groups pursuing the native way of life so that they may be abreast of their neighbours in this respect. Activity has been restricted to these aspects of health since general welfare and education of Indians is a function of Indian



Affairs Branch of the Department of Citizenship and Immigration while the Northern Administration Branch of the Department of Northern Affairs and National Resources performs these functions for the Eskimo.

In the Yukon and Northwest Territories, the Directorate has acted as an interim department of health since the governing bodies of these areas have not yet developed such health agencies.

### **Populations**

A census of Indians is taken each five years. The latest was in 1954 and recorded 151,558 persons of Indian status. It was estimated that at the end of 1958 the population on Indian registers would be 174,000. The latest Eskimo census was in 1951 and recorded 9,500. It is estimated that in 1958 the figure would be 11,300 or a total for the two native peoples in 1958 of some 185,300.

The population of the Yukon and Northwest Territories was about 32,600 of which 6,300 would be Indian, 9,300 Eskimo and 17,000 others.

### **Organization**

In addition to the Head Office in Ottawa, the Directorate has regional offices at Vancouver, Edmonton, Regina, Winnipeg and Ottawa. Regions are subdivided into zones following practical geographic, population and communication principles. The total establishment was for 2,311 positions of which 604 were for graduate nurses, 106 for medical officers, 20 for dental officers and 38 for senior administrative officers. There were in operation 17 hospitals each exceeding 20 beds, 41 nursing stations with 4 to 10 beds and 108 health centres wherein professional staff carried out a treatment and health program but no bedside care (Tables 1, 2). These facilities composed a skeleton which rounded out by arrangements with some 2,000 physicians, 200 dentists and 750 hospitals. Close co-operation was maintained with the public health agencies of each province with reciprocal services wherever practical. This organization was further augmented by the provision of suitable supplies close to each native community and an arrangement with some skilled person to dispense these. This honoured the one written agreement which was to provide a chest of medicines at the residence of each agent.

### **Activities 1958**

In addition to extensive improvements to existing facilities, former nursing stations were fully replaced at Onion Lake in Saskatchewan and St. Therese's Point on Island Lake in Manitoba. A new station was completed at Cambridge Bay on Victoria Island in the Western Arctic. Previous case finding activities were maintained through 27 separate surveys covering the out-of-the-way groups. Some 109,000 x-ray films were taken by these teams, including nearly 14,000 on persons other than native status. Through these films, 539 cases of active tuberculosis were detected among Indians and Eskimos and six cases among the others (Table 3). The teams carried out all essential treatment and as much preventive work as circumstances would permit. Among other procedures, some 68,000 inoculations against poliomyelitis were given and 9,300 individuals, mostly infants, were given the Bacillus Calmette-Guérin vaccine to enhance resistance to tuberculosis.



In addition to the disorders discovered and dealt with by the mobile units, an increasing case-finding program was maintained by the departmental treatment centres and the physicians who provide services by arrangement. These activities yielded another 689 cases of active tuberculosis among Indians and Eskimos for a total of 1,228 new cases for the year. This is but a few less than the previous year but the majority are detected a little earlier in the disease.

The latest vital statistics available are for 1957 and showed a death rate of 9.9 as compared to the national rate of 8.2 per thousand of population. There continued to be a regrettably high rate for the very young born in unfavourable environments. The birth rate continued high so that the net increase, allowing for enfranchisements (500 to 1,000 each year), continues to be 3 per cent, which is high for natural increase.

### ***Trends***

Available data indicates clearly that the number of Indians and Eskimos under treatment for tuberculosis, which has been the most serious scourge, has declined steadily in the past few years with 4,400 under treatment in all of 1958 as compared with 5,200 in 1957 and 6,800 in 1956 (Table 4). Population trends alone point to increasing numbers under care for general conditions but actually tabulation was distorted from July 1, 1958 when the Indians in Saskatchewan, Manitoba and Newfoundland came under Provincial Hospital Insurance Plans from which data were not available. As each province adopts a general insurance plan, the Indians have been included either by agreement or the payment through the Directorate of premiums where these are in effect. The inclusion of certain groups into prepaid medical care plans was explored and will be pursued. This has been consistent with the general policy to avoid distinctions between the Indian and Eskimo peoples and other citizens.

GRAPH 1: SELECTED CAUSES OF INDIAN MORTALITY BY RANK, 1951-1957

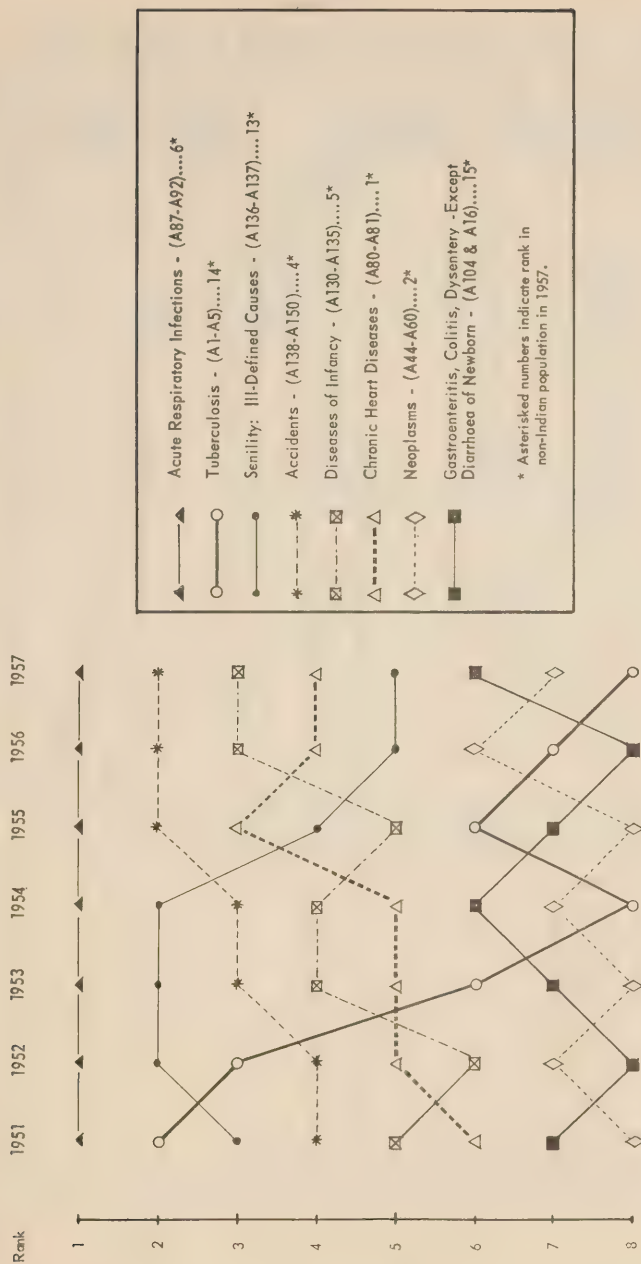


TABLE 1

## I.N.H.S. FACILITIES BY REGIONS, DECEMBER 31, 1958

I.N.H.S. Region	Province	Facilities						
		Hospitals			Clinics	Nursing Stations		Health Centres
		No.	Rated Cap.			No.	Rated Bed Cap.	
			Beds	Bass.				
Eastern	Nfld.....							
	N.S.....				1			2
	P.E.I.....							1
	N.B.....							3
	Que.....				2	5	20	15
	Ont.....	2	199	18	5	1	10	11
	N.W.T.....				1	4	16	1
	Totals.....	2	199	18	9	10	46	33
Central	Ont.....	1	72	2	1	5	20	5
	Man.....	5	486	20	5	9	36	4
	N.W.T.....				1	1	4	
	Totals.....	6	558	22	7	15	60	9
Sask.	Sask.....	2	154	13	3	4	16	8
Foothills	Alta.....	4	620	20	2	6	37	7
	B.C.....							
	Yukon.....							3
	N.W.T.....				4	6	22	3
	Totals.....	4	620	20	6	12	59	13
Pacific	B.C.....	3	573		4			16
Grand Totals.....		17	2,104	73	29	41	181	79

TABLE 2  
I.N.H.S. FACILITIES BY REGION, ZONE AND PROVINCE

I.N.H.S. Region	GEOGRAPHIC AREAS			I.N.H.S. FACILITIES			
	I.N.H.S. Service	I.N.H.S. Zone	Province	Hospital	Clinic	Nursing Station	Health Centre
Eastern	Indian Health Services	Atlantic	Nova Scotia		Sydney		Ekasoni Shubenacadie
			Prince Edward Island				Lennox Island
			New Brunswick				Big Cove Chatham Kingstear
		Quebec	Quebec		Caughnawaga	Bessants Fort Chimo	Knob Lake Mingan Oka Pointe Bleue Restigouche Romaine Seven Islands
						Fort George Fort Harrison Rupert's House	Great Whale
				Moose Factory	James Bay		
		Moose Factory	Ontario				
		Headquarter	Northwest Territories		Amos		Belcher Islands
			Quebec				Maniwaki Manowan Matasami Obediwan Rapid Lake St. Regis Waranipi
			Ontario		Deseronto		
		Southern Ontario	Ontario	Lady Willingdon	Ohwaken Sarnia		Chippewa Hills Christian Island Muncey Orillia Peterborough Walpole Island
		Northern Ontario	Ontario		Manitowaning	Manitowaning	Chapleau Parry Sound Sault Ste. Marie Sudbury Temiskaming
	Northern Health Services	Eastern	Northwest Territories		Pangnirtung	Cape Dorset Fox Frobisher Bay Lake Harbour	

I.N.H.S. FACILITIES BY REGION, ZONE AND PROVINCE—*Concluded*

I.N.H.S. Region	GEOGRAPHIC AREAS			I.N.H.S. FACILITIES			
	I.N.H.S. Service	I.N.H.S. Zone	Province	Hospital	Clinic	Nursing Station	Health Centre
Central	Indian Health Services	Sioux Lookout	Ontario	Sioux Lookout	Sioux Lookout	Big Trout Lake Lac Seul Lansdowne House Pikangikum Sandy Lake	Fort Frances Kenora Nakina Pickle Lake Port Arthur
		Southern Manitoba	Manitoba	Brandon Fisher River Fort Alexander	Fisher River Pine Falls	Little Grand River Little Saskatchewan	Dauphin Portage la Prairie Sandy Bay
		Norway House	Manitoba	Norway House	Norway House	Cross Lake God's Lake Island Lake Oxford House St. Theresa's Point	
		The Pas	Manitoba	Clearwater Lake	The Pas	Nelson House Split Lake	Churchill
	Northern Health Services	Headquarters Central	Manitoba Northwest Territories		Winnipeg Chesterfield	Baker Lake	
Saskatchewan	Indian Health Services	Fort Qu'Appelle	Saskatchewan	Fort Qu'Appelle	Fort Qu'Appelle		Broadview Kamsack Punnichy Rose Valley White Bear Lake
		North Battleford	Saskatchewan	North Battleford	North Battleford	Onion Lake	Meadow Lake
		Prince Albert	Saskatchewan		Prince Albert	Fort la Corne Lac la Ronge Pelican Narrows	Shellbrook Uranium City
	Indian Health Services	Charles Camell	Alberta	Charles Camell	Edmonton		
Foothills	Indian Health Services	Alberta	Alberta	Blackfoot Blood Hobbema	Hobbema	Drittpile Goodfish Lake Hay Lake Peigan Saddle Lake Stony	Bonnyville Calgary Fort Chipewyan Fort Vermilion High Prairie Rocky Mountain House Wabasca
				Inuvik	Atlatik Fort Rae Fort Simpson Fort Smith	Cambridge Bay Coppermine Fort Good Hope Fort McPherson Fort Norman Tuktoyaktuk	Fort Resolution Inuvik Providence
		Mackenzie	Northwest Territories				
	Northern Health Services	Yukon	Yukon	Whitehorse			Dawson Mayo Whitehorse



Pacific	Indian Health Services	Coqualeetza	British Columbia	Coqualeetza	Sardis Vancouver Williams Lake		Alexis Creek Kamloops Lillooet Merritt Mount Currie
		Nanaimo	British Columbia	Nanaimo			Alert Bay Bella Coola Duncan Tofino
		Miller Bay	British Columbia	Miller Bay	Miller Bay		Aiyah Fort St. John Greenville Hazelton Massett Port Simpson Vanderhoof

TABLE 3  
ANTI-TUBERCULOSIS ACTIVITIES  
Calendar Year 1958

Region	Category of Persons	Population (1)	Number of X-rays Taken			Number of Active Cases Discovered						Number of Cases Discovered by Surveys Hospitalized Before January 1, 1959	Number of B.C.G. Vaccinations (2)
			on Field Surveys	on School Surveys	on All Surveys	Diagnosed for First Time	By Field and School Surveys			by Other Means	Grand Totals		
							Previously known		Totals				
							Active on Last Examination	Re-activated Since Last Examination					
Eastern	Indians Eskimos	57,800	11,920	711	12,631	115	10	25	91	241	109	1,794	
	Totals	6,634	4,140	—	4,140	93	10	6	9	118	100	376	
Central	Indians Eskimos	64,434	16,060	711	16,771	208	20	31	100	359	209	2,170	
	Totals	34,800	21,239	4,177	25,416	45	—	36	129	210	76	1,463	
Saskatchewan	Indians Eskimos	1,765	854	—	854	11	4	—	46	61	6	33	
	Totals	36,565	22,093	4,177	26,270	56	4	36	175	271	82	1,496	
Foothills	Indians Eskimos	20,700	14,200	2,951	17,151	35	6	6	109	156	47	883	
	Totals	26,400	12,522	4,290	16,812	14	3	9	128	154	26	3,031	
Pacific	Indians Eskimos	2,931	2,468	—	2,468	9	—	3	40	52	12		1,757
	Totals	29,331	14,990	4,290	19,280	23	3	12	168	206	38	9,337	
Totals	Indians Eskimos	34,300	13,612	2,154	15,766	70	5	24	137	236	69		1,228
	Totals	174,000	73,493	14,283	87,776	279	24	100	594	997	327	445	
	Indians Eskimos	11,330	7,462	—	7,462	113	14	9	95	231	118		9,337
	Totals	185,330	80,955	14,283	95,238	392	38	109	689	1,228	445		

(1)—Total Registered Indian pop. Dec. 31, 1958; distribution by Regions estimated. Eskimo pop. Dec. 31, 1958; includes an estimated 900 in Labrador.

(2)—Repeats included with first vaccinations. Foothills Regional figures include vaccinations given to "Others".

TABLE 4  
REGISTERED INDIAN AND ESKIMO IN-PATIENT MOVEMENT BY CONDITION  
AND REGION IN ALL I.N.H.S. AND NON-I.N.H.S. INSTITUTIONS  
Calendar Years 1955 to 1957

Region	Condition	Patients Under Care			Patient Days			Average Stay of Separations		
		1955	1956	1957	1955	1956	1957	1955	1956	1957
Eastern	General	10,198	11,571	11,227	154,322	172,789	153,731	14.8	14.3	14.0
	Tuberculosis	1,596	1,625	1,048	221,606	221,818	163,580	265.8	260.0	308.0
	Mental	206	209	194	55,496	57,599	52,151	747.9	1,453.7	860.6
	Totals	12,000	13,405	12,469	431,424	457,206	369,462	37.9	42.1	35.1
Central	General	8,078	8,255	10,700	97,052	94,446	120,327	12.3	11.3	11.6
	Tuberculosis	1,424	1,068	948	193,676	190,825	137,028	247.6	213.0	313.1
	Mental	70	66	63	16,462	16,044	15,195	800.8	593.7	574.8
	Totals	9,572	9,389	11,711	307,190	261,315	272,550	40.1	29.1	28.5
Saskatchewan	General	6,226	7,296	8,403	66,563	79,707	91,619	10.7	11.3	11.1
	Tuberculosis	846	732	538	100,093	95,827	84,915	107.7	184.5	269.6
	Mental	55	69	92	13,005	15,814	20,082	660.7	291.2	369.8
	Totals	7,130	8,097	9,123	181,661	191,348	195,751	25.9	23.7	22.2
Foothills	General	7,230	8,471	9,220	99,430	106,104	113,892	12.4	11.7	12.5
	Tuberculosis	1,000	865	650	200,252	151,864	123,411	438.3	481.9	455.1
	Mental	58	71	55	15,209	17,399	16,217	1,353.5	164.1	1,079.7
	Totals	8,288	9,407	9,925	314,891	275,367	253,520	46.3	39.2	28.3
Pacific	General	256*	10,268	10,801	102,935	117,733	138,894	39.7*	11.4	13.2
	Tuberculosis	1,009	945	697	161,827	145,308	132,311	366.1	247.1	382.4
	Mental	81	80	84	23,174	23,866	23,544	455.2	641.0	885.3
	Totals	1,346*	11,293	11,584	287,936	287,127	294,647	280.5*	25.7	27.4
All Indians	General	31,988*	45,861	50,441	520,302	570,779	618,463	13.0*	12.2	12.5
	Tuberculosis	5,878	5,235	3,883	879,454	770,842	640,588	280.4	270.1	336.0
	Mental	470	495	488	123,346	130,742	126,879	780.9	808.2	696.9
	Totals	38,336*	51,591	54,812	1,523,102	1,472,363	1,385,930	43.8*	32.7	28.6
Eskimo	General	845	1,711	2,017	37,518	46,256	46,305	44.2	30.4	23.7
	Tuberculosis	1,356	1,576	1,287	183,386	231,425	206,551	240.8	236.5	323.5
	Mental	13	27	26	3,888	4,452	4,329	10.0	1,065.4	278.2
	Totals	2,214	3,316	3,330	224,742	282,133	257,385	139.3	107.4	109.1
Indians Plus Eskimo	General	32,833*	47,572	52,458	557,820	617,035	664,768	13.7*	12.8	13.0
	Tuberculosis	7,234	6,813	5,170	1,062,790	1,002,267	847,139	274.2	263.1	332.9
	Mental	483	522	514	127,234	135,194	131,408	774.4	825.1	660.8
	Totals	40,550*	54,907	58,142	1,747,844	1,754,496	1,643,315	47.4*	36.4	32.6

\* Excluding B.C.H.I.S.

## **HEALTH SERVICES DIRECTORATE**

### **INTRODUCTION**

The responsibilities of the Health Services Directorate include such matters as relate to the provision of technical and financial assistance to the provinces; statutory duties which are federal in character; co-ordination of extra-mural and intra-mural research activities; the provision of consultant services and certain obligations related to the international health field. Because of their interlocking and frequently interdependent character, these functions have been grouped under the overall supervision of the Director of Health Services. The Directorate consists of four main units, each under the direction of a Principal Medical Officer and a number of consultant divisions covering special health fields. General administrative and clerical assistance is provided by a joint administrative unit under the supervision of a Principal Executive Officer responsible to the Director. Detailed accounts of the activities of each division and unit of the Directorate are presented under the appropriate headings.

### **ENVIRONMENTAL HEALTH AND SPECIAL PROJECTS**

The Principal Medical Officer, Environmental Health and Special Projects, because of his responsibilities with respect to problems of air pollution and water pollution, maintains a close working relationship with the Divisions of Occupational Health, Public Health Engineering and Radiological Protection.

He is the Canadian representative on such committees as the Scientific Committee of the United Nations on the Effects of Atomic Radiation and the International Commission on Radiological Protection. Because of his interest in atomic energy matters, he is also a member of the Reactor Safety Advisory Committee of the Atomic Energy Control Board, and is responsible for the Departmental program concerned with the effects of radio-active fallout. In the latter program, the Department receives advice and assistance from subcommittees on the Genetic and Somatic Effects of Radiation.

### **HEALTH INSURANCE**

During the year under review, seven provinces implemented hospital insurance programs in accordance with agreements made under the Hospital Insurance and Diagnostic Services Act. As mentioned in last year's report, the Province of Ontario had signed an agreement in March, 1958. During the month of June, 1958, agreements were signed on the 9th with Newfoundland, on the 25th with British Columbia, on the 27th with Manitoba and Alberta and on the 30th with Saskatchewan. Later in the year, on October 16th, an agreement was signed with Nova Scotia.

In June, 1958, the Hospital Insurance and Diagnostic Services Act was amended by deleting the original provision that no contribution might be paid under the Act until at least six provinces, containing at least one-half of the population of Canada, had entered into agreements and had provincial laws in

force. The new provision permitted contributions to be paid from July 1, 1958. This facilitated the inauguration of joint federal-provincial programs on that date in British Columbia, Alberta, Saskatchewan, Manitoba and Newfoundland. On January 1, 1959, Ontario and Nova Scotia inaugurated programs in those provinces.

The inauguration of hospital insurance programs in the participating provinces, entailed a considerable amount of preparatory work by Health Insurance and by other divisions of the Department, particularly the Research and Statistics Division and the Legal Division. Close collaboration was maintained with Comptroller of the Treasury, the Dominion Bureau of Statistics, the Department of Finance and the Department of Justice. Health Insurance provided the necessary liaison between the provincial authorities and other departments of the Federal Government having direct concern in certain areas of the provincial programs, including the Department of Veterans Affairs and the Department of Citizenship and Immigration.

In May and October, 1958, federal-provincial technical conferences on hospital insurance were held in Ottawa and were attended by representatives of all the provinces as well as the federal departments concerned. On both occasions, a considerable amount of attention was given to a wide range of technical matters and the drafting of forms intended to provide both the provinces and the Federal Government with requisite statistical and financial information.

By the end of the year under review, more than 11 million residents of Canada were covered by the public hospital insurance programs in the participating provinces. Advance payments to the provinces in accordance with the terms of the Hospital Insurance Regulations, totalled almost \$55 million. These monthly advances are based on payments made by the provinces to hospitals, in accordance with the agreements, and are on account of the federal contribution which is calculated on an annual basis.

At the end of the year under review, two additional provinces, New Brunswick and Prince Edward Island, were planning programs with the intention of commencing operation during 1959.

In addition to maintaining close liaison in the administration of the programs, health insurance has provided consultant services to the provinces. The staff was augmented by a consultant in hospital accounting and the Consultant in Hospital Administration was sent on educational leave to complete a course in hospital administration at the University of Toronto.

## NATIONAL HEALTH GRANTS ADMINISTRATION

The 1958-59 fiscal year was one of change and adjustment in the National Health Program. With the start of the Federal Government's financial participation in the costs of hospital insurance in five provinces on July 1, 1958, and two more provinces on January 1, 1959, a detailed review of all projects receiving assistance through the grants program in these seven provinces was carried out, as required by the relevant acts and regulations. This was to eliminate any possible duplication of financial assistance from two sources within the Federal Government. Preliminary meetings were also held with two provinces which may enter the hospital insurance program later in 1959.



### ***New Developments Fostered***

As a result of this review, the provinces were enabled to place a desirable emphasis on health services not related to the care of general hospital in-patients. Preliminary planning carried out in 1957-58 enabled the provinces to undertake immediately, a further expansion and strengthening of their health services, particularly in such areas as the training of additional staff, the immunization of large segments of the adult population against poliomyelitis, the strengthening of their specialized consultative services to hospital programs, the broadening of their attack on mental illnesses, a new approach to tuberculosis control through mass tuberculin testing, the encouragement of research into the causes and treatment of diseases of the heart and arteries, and the development of home care programs designed to keep people out of hospitals and to reduce their length of stay there.

These changes in the utilization of the federal health grants, which are expected to be of even wider scope in 1959-60 and subsequent years, again demonstrated the adaptability of the grants in meeting changing circumstances and in providing support for new and desirable developments in provincial health services.

As in previous years, consultants in the various special divisions of the department continued to provide assistance in the review of both new and continuing health grant projects in such fields as blindness control, child and maternal health, nutrition, dental health, medical rehabilitation, mental health, public health engineering, occupational health, laboratory services, health education, radiation protection, epidemiology, nursing services, research and hospital construction. These activities and information on the impact of the grants program on these special fields of interest are described in detail in other sections of this report.

### ***Changes in the Grants***

No major changes occurred in the legal or administrative structure of the grants program during the year. Studies were, however, initiated to ascertain what changes, if any, may be needed to enable the grants to make their maximum contribution to the solution of health problems as they exist in Canada.

The more generous scale of assistance under the Hospital Construction Grant, which became effective on January 1, 1958, has resulted in an increase of approximately \$8,778,000 over payments made under this grant in 1957-58. An expansion of the scope of the grant to include assistance toward the building costs of interns' quarters and toward the cost of renovating existing hospital buildings has resulted in the submission and approval of projects for the building of space for 330 interns' beds and for 14 hospital renovations. The total federal contribution to these two classes of projects will be slightly more than \$1,000,000.

During the year, in co-operation with Information Services Division, news items for press, radio and television use were issued regarding new developments under the program. On request, members of the staff addressed university groups, hospital administrators and public gatherings on the aims, administrative procedures and achievements of the program. Meetings were held with provincial staffs both in Ottawa and in the provinces with regard to planning and administration.

**Expenditures**

Despite the changes occasioned by the development of hospital insurance, the percentage of utilization of each of the 12 grants in the National Health Program continued at a high level. Federal expenditures under the program totalled more than \$45,850,000 during the 1958-59 fiscal year—an increase of about \$11,000,000 over 1957-58. Payments to the provinces and territories in the 11 years since the program began now total more than \$304,786,000. The following table shows the 1958-59 expenditures by grants and by provinces.

TABLE 5  
EXPENDITURES UNDER THE NATIONAL HEALTH GRANTS FOR THE  
FISCAL YEAR 1958-59 BY PROVINCE AND GRANT

Province	GRANT												Total
	Crippled Children	Profess. Training	Hospital Construction	Veneral Disease Control	Mental Health	Tuberculosis Control	Public Health Research	General Public Health	Cancer Control	Laboratory & Radiological Services	Medical Rehabilitation	Child & Maternal Health	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Newfoundland.....	3,650	16,734	66,689	16,254	204,259	115,594	—	259,347	15,183	131,135	15,144	40,870	884,859
Prince Edward Island...	5,999	1,849	141,713	3,084	66,664	47,675	—	77,754	12,580	49,500	14,398	15,207	436,423
Nova Scotia.....	20,428	30,743	320,112	24,193	305,440	187,965	32,707	368,360	152,314	340,338	30,689	95,931	1,909,220
New Brunswick.....	20,253	19,045	448,466	20,253	262,583	165,392	—	272,477	122,588	282,500	40,522	78,336	1,732,415
Quebec.....	91,817	132,483	6,915,013	92,781	2,070,862	1,498,920	190,245	1,658,574	1,026,308	1,379,104	233,579	583,947	15,873,633
Ontario.....	152,304	266,743	4,245,447	144,451	2,003,328	817,472	126,311	2,145,431	1,181,807	62,317	141,709	461,151	11,748,471
Manitoba.....	28,738	31,873	711,865	28,738	335,825	195,596	25,361	489,399	175,055	245,845	56,371	88,504	2,413,170
Saskatchewan.....	24,762	23,157	1,201,370	29,285	402,663	209,688	46,288	436,833	190,717	281,167	48,653	106,934	3,001,517
Alberta.....	37,368	35,867	1,139,342	37,368	540,699	229,506	13,395	616,758	251,686	492,641	29,647	95,539	3,519,816
British Columbia.....	23,693	53,230	1,637,207	46,774	603,148	272,828	23,197	872,040	245,725	249,854	80,901	134,001	4,242,598
Northwest Territories...	4,216	5,701	—	—	—	6,340	7,026	34,695	4,725	—	—	—	62,703
Yukon.....	—	—	—	—	—	34,556	—	—	—	—	—	—	34,556
All Provinces.....	413,228	617,425	16,827,224	443,181	6,795,471	3,781,532	464,530	7,231,668	3,378,688	3,514,401	691,613	1,700,420	45,859,381

## RESEARCH DEVELOPMENT AND INTERNATIONAL HEALTH SECTION

### RESEARCH DEVELOPMENT

During the fiscal year 1958-59, a total of \$3,441,041.33 was made available for scientific research including the progressively expanding program of extra-mural grants-in-aid of medical research and departmental activities in this general field. In support of health studies in universities, hospitals and other research institutes a total of \$2,258,498.33 was allocated, \$2,105,636.23 by way of direct grants-in-aid, \$92,634.10 to the National Cancer Institute and \$60,228 to the Ontario Cancer Treatment and Research Foundation.

Within the Department, \$1,182,543 was allocated for research in the respective divisions as indicated in Table 1. This also includes the Research and Statistics Division whose activities are concentrated in the socio-economic field. Detailed reference to the work performed in this and the other divisions listed is made in relevant sections of the report.

Allocations for extra-mural grants-in-aid by grant and by province are presented in Table 2. The funds for the National Cancer Institute and the Ontario Cancer Treatment and Research Foundation are matched with an equal contribution by the provinces concerned in support of the programs of fundamental and clinical research sponsored by those agencies.

An analysis of fields of medicine or scientific disciplines involved in the extra-mural research program is presented in Table 3, indicating the numbers of projects and the funds allocated to the specific field. Similarly, the disease entities in the research studies have been reviewed and are listed in Table 4. In the fields of medicine, it will be appreciated that there may be more than one discipline involved in the conduct of many of the studies. However, projects have been listed according to the scientific discipline which has greatest prominence in the performance of the research. This also applies to a lesser extent to those listed under disease entities where several pathological conditions may be involved. There are, of course, a number of studies which cannot be tabulated mainly for lack of relationship to any specific disease condition.

### INTERNATIONAL HEALTH

With Canada's expanding role in the international field, health takes a prominent position and is demanding progressively increasing attention. The International Health Section is responsible for co-ordination of the interests and activities of the Department in international health areas which, in the main, are those arising out of Canadian membership in the specialized agencies, i.e., W.H.O. and other United Nations organs, and the multilateral United Nations technical assistance programs including the Expanded Program (UNTA) and the Children's Fund (UNICEF). In addition, the Section advises the Colombo Plan Administration on technical assistance requests in the health field and functions as the assessment and placement agency for the Colombo Plan Fellows undertaking post-graduate studies at Canadian medical schools and post-graduate faculties.

Regarding the activities of the World Health Organization, it was noteworthy that the Tenth Commemorative Session was held in Minneapolis, Minnesota, May 26-28, 1958, followed by the regular meeting of the 11th World Health Assembly. The Canadian Delegation to the Commemorative Session was



led by the Honourable J. Waldo Monteith, Minister of National Health and Welfare. Other members were Dr. G. D. W. Cameron, Deputy Minister of National Health, Dr. G. Brock Chisholm, Victoria, B.C., Dr. Adelard Groulx, Chief Health Officer for the City of Montreal, Dr. B. D. B. Layton, Dr. P. E. Moore and Mr. T. J. Giles of the Department of National Health and Welfare.

At the 11th World Health Assembly, May 28th to June 13th, 1958, the Delegation was led by Dr. G. D. W. Cameron, Deputy Minister of National Health, with Dr. B. D. B. Layton, Principal Medical Officer, International Health Section, acting head from May 30th to the end of the Assembly. Other members were Dr. A. D. Kelly, General Secretary of the Canadian Medical Association, Dr. Jules Gilbert, President of the Canadian Public Health Association, Dr. R. D. Defries, former Director of the Connaught Medical Research Laboratories and School of Hygiene, University of Toronto, Mr. T. J. Giles of the Department of National Health and Welfare, and Mr. R. G. Monk of the Department of Finance. Dr. P. E. Moore, Canada's nominee to the Executive Board of W.H.O. and Chairman for 1958-59, represented the Board with Sir John Charles of the United Kingdom at the Health Assembly.

A program for W.H.O. for 1959 was approved at a budgetary level of \$14,442,740 (U.S.) of which Canada's assessed contribution is \$434,730. In addition the Organization is responsible for the co-ordination and technical direction of health programs financed through the U.N. Expanded Program of Technical Assistance and the United Nations Children's Fund. The total available for health activities from these sources in 1959, with funds for malaria eradication, special contributions in the Region for the Americas under P.A.H.O. and other sources amount to \$48,200,000.

Major emphasis in the program is placed on assistance in strengthening the organization of national health administrations in underdeveloped countries, on the training of additional health personnel and on the program of worldwide eradication of malaria which began in 1956. Other prominent items include an effort to achieve the total eradication of smallpox, an intensified research program for W.H.O. and co-operation with the International Atomic Energy Agency in regard to the health aspects of the peaceful uses of atomic energy.

TABLE 6

## SUMMARY OF INTRA-MURAL RESEARCH PROGRAM

Department of National Health and Welfare—1958-59	
<i>Division</i>	<i>Research Budget</i>
Civil Aviation Medicine .....	2,500
Dental Health .....	18,500
Epidemiology .....	22,000
Food & Drugs Laboratories .....	225,000
Laboratory of Hygiene .....	296,500
Nutrition .....	41,000
Occupational Health	
Laboratory Services .....	269,320
Radiation Protection .....	48,000
Public Health Engineering .....	300
Research and Statistics .....	259,423
<b>TOTAL .....</b>	<b>\$ 1,182,543</b>



TABLE 7

ALLOCATIONS FOR RESEARCH UNDER THE NATIONAL HEALTH PROGRAM  
By Health Grant and By Province, 1958-59

Province	Crippled Children	Mental Health	Tuberculosis	Public Health Research	General Public Health	Medical Rehabilitation	Child and Maternal Health	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Nova Scotia .....	—	—	—	41,945 00	—	—	—	41,945 00
Quebec.....	—	246,222 75	10,800 00	194,245 00	262,263 34	3,050 00	114,702 95	831,284 04
Ontario.....	39,939 23	166,045 15	92,088 00	149,798 35	293,340 83	—	83,045 17	824,256 73
Manitoba.....	—	24,633 20	—	29,465 00	18,830 00	—	13,645 00	86,573 20
Saskatchewan.....	—	63,162 00	—	46,287 72	—	—	11,705 00	121,154 72
Alberta.....	—	—	—	17,537 30	—	—	31,030 81	48,568 11
British Columbia.....	—	57,389 00	4,000 00	26,536 90	24,640 95	—	32,262 00	144,828 85
Northwest Territories.....	—	—	—	7,025 58	—	—	—	7,025 58
Total .....	39,939 23	557,452 10	106,888 00	512,840 85	599,075 12	3,050 00	286,390 93	2,105,636 23

Note—Assistance to National Cancer Institute: P.E.I.....	\$ 825 00	Quebec.....	\$36,209 60	Ontario.....	\$41,849 50
Manitoba .....	6,500 00	Saskatchewan.....	7,250 00		
Total.....			\$92,634 10		
— Assistance to Ontario Cancer Treatment and Research Foundation.....			\$60,228 00		

TABLE 8  
RESEARCH ACCORDING TO FIELD OF MEDICINE  
National Health Program—1958-59

Field of Medicine	No. of Projects	Amount	Per Cent of Total
Psychology and Psychiatry.....	28	328,699.10	15.6
Cardiology.....	18	316,074.89	15.0
Pharmacology and Therapeutics.....	24	186,898.68	8.9
Biochemistry.....	20	151,044.75	7.2
Bacteriology.....	21	128,304.74	6.1
Neurology.....	10	117,849.60	5.6
Special Senses.....	5	94,737.05	4.4
Virology.....	10	91,536.60	4.4
Pediatrics.....	11	78,298.60	3.7
Tubercle Bacillus and B.C.G.....	13	77,050.00	3.6
Endocrinology.....	6	73,795.83	3.5
Obstetrics and Gynaecology.....	11	71,818.10	3.4
Internal Medicine.....	6	70,944.90	3.4
Hematology.....	8	54,164.92	2.6
Physiology.....	6	51,243.20	2.5
Dentistry.....	2	30,705.04	1.5
Tuberculosis.....	3	26,380.00	1.2
Genetics.....	3	23,354.11	1.1
Pathology.....	3	19,921.90	1.0
Other—Miscellaneous.....	15	112,814.22	5.3
Total.....	223	\$2,105,636.23	100.0

TABLE 9  
RESEARCH ACCORDING TO DISEASE ENTITY  
National Health Program—1958-59

Disease Entity	No. of Projects	Amount	Per Cent of Total
Psychosis.....	28	322,136.28	15.3
Heart Disease.....	19	301,649.60	14.3
Tuberculosis (Respiratory).....	29	201,929.88	9.6
Infectious Disease.....	26	174,066.46	8.3
Neonatal Period.....	18	165,417.64	7.9
Bones and Organs of Movement.....	14	136,542.42	6.5
Nervous System.....	15	124,545.26	5.9
Eye, Ear and Mastoid.....	6	115,703.09	5.5
Neurosis and Psychoneurosis.....	5	59,210.00	2.8
Digestive Disease.....	8	48,511.67	2.3
Mental Deficiency.....	7	43,078.20	2.1
Mouth and Teeth.....	3	34,405.04	1.6
Arteriosclerosis and Hypertension.....	2	33,100.00	1.6
Anemias.....	4	32,995.00	1.5
Pregnancy.....	8	30,105.00	1.4
Senility.....	1	21,940.00	1.0
Other Respiratory.....	4	21,190.00	1.0
Poisoning, Alcoholism and Drug Addiction.....	2	15,898.55	0.8
Genito-Urinary System and V.D.....	3	14,612.00	0.7
Other—Miscellaneous.....	9	96,458.84	4.6
Unclassifiable*.....	12	112,141.30	5.3
Total.....	223	\$2,105,636.23	100.0

\*No specific disease involved.

## SPECIAL HEALTH SERVICES (CONSULTANT AND LABORATORY)

### BLINDNESS CONTROL DIVISION

The Division continued its educational campaign for the control of blindness and its consultant services to provincial health and welfare officials. Much of the Division's work concerns the issuing of blindness certificates to provincial authorities under the regulations of the Blind Persons' Act. There are more than 23,000 known blind in Canada of whom 8,747 between the ages of 18 and 70 were in receipt of blindness allowance on March 31st, 1959.

#### **Treatment Scheme**

A treatment scheme for suitable recipients of blindness allowance was initiated by the Division through an order in council in 1948. The scheme is administered by the Division and those provinces who have agreed to participate. The Department reimburses the provinces for 75 per cent of the cost of approved treatment. During the past year, 88 cases were treated of whom 72 had vision restored.

#### **Summary of Treatment Cases**

*From 1948 to March 31st, 1959*

<i>Provinces</i>	<i>Total</i>	<i>Successful</i>	<i>Unsuccessful</i>
Newfoundland .....	4	1	3
Prince Edward Island .....	2	2	0
Nova Scotia .....	27	17	10
New Brunswick .....	90	73	17
Quebec .....	248	190	58
Ontario .....	123	91	32
Manitoba .....	14	11	3
Saskatchewan .....	13	9	4
	521	394	127

#### **Glaucoma**

Glaucoma develops in 2 per cent of persons over 40 and in a few younger persons. It is our most serious eye problem. Early treatment can preserve vision. Unfortunately, early symptoms are lacking in the common chronic form of the disease. As a result, glaucoma causes more blindness than any other eye disease. Under the National Health Grants Program, glaucoma clinics have been set up in Saint John, Quebec City, Montreal (3 clinics), Toronto, Ottawa, London, Winnipeg, Saskatoon and Vancouver. Other clinics are planned.

#### **Eye Research**

Eye Research under the Health Grants Program has been underway since 1950 mainly in the Department of Ophthalmology of the University of Toronto. Present investigations concern glaucoma, diabetic retinitis, retinal detachment, strabismus, diseases of the cornea and corneal transplantation assisted by an Eye

Research Bank. Donor eyes are in short supply. If a person before death wishes to donate his eyes it is still necessary to obtain the consent of the next of kin immediately after the donor's death. Eyes then must be removed within several hours to be of use.

Research into children's hearing defects and speech therapy is being conducted under a health grant at the Notre Dame Hospital, Montreal. A research project concerning deafness due to noise is underway at Toronto. Other health projects include an eye clinic at the Children's Hospital, Montreal, and projects for screening the vision and hearing of children in various centres.

## **CHILD AND MATERNAL HEALTH DIVISION**

The Child and Maternal Health Division continued its activity in the promotion of comprehensive health programs for mothers and children. In the presence of a relatively high birth rate and significant immigration of young families, the provision of health services for almost one half million mothers per year and a population of almost five million children under 15 years of age offers a real challenge to health authorities everywhere in Canada. Specifically, the Division makes medical and nursing consultation services available to provincial health departments and other health agencies, assists in the administration of national health grants, develops educational materials for lay and professional use, and attempts to stimulate research and study of present health programs and problems.

### ***National Health Grants***

The Division continued to assist the Health Grants Administration in appraising projects for the utilization of the Crippled Children and Child and Maternal Health Grants in particular. During the year, there was little modification in the established pattern of utilization of the Crippled Children Grant, which is used mainly to strengthen treatment services for children with locomotor disabilities. The utilization of the Child and Maternal Health Grant reached an unprecedented high level. These funds continued to be used for strengthening Maternal and Child Health consulting services in provincial health departments, and for training of physicians and nurses. New public health programs were assisted, such as poison control centers, a demonstration child health service and a genetic counselling service. Further assistance was given for the extension of dental programs for children and a variety of other measures for the recognition and treatment of long term disabilities. Emphasis continued to be placed on the improvement of hospital facilities for the care of mothers and newborns. Research programs are continuing to expand. Areas receiving particular attention are maternal and newborn problems, congenital disabilities, nutrition and vision defects. The levels of utilization of these grants in recent years are shown in Table 10 which follows.

### ***Field Activities***

The usual field visits to provincial health departments and other health agencies were somewhat restricted due to the absence on educational leave of the nursing consultant. However, the divisional personnel was gratified to be able to participate in four refresher courses for physicians and nurses across the country.

## **Educational Material**

Materials already available continued to be in good demand. A revised edition of the manual *Care of the Premature Infant* became available as well as an additional poster of the accident prevention series.

## **Maternal and Child Health Advisory Committee**

This committee which was set up in the previous fiscal year had its initial meeting in April. It was attended by provincial Maternal and Child Health directors or other provincial representatives, as well as specialists in obstetrics, pediatrics and nursing. During the course of the deliberations, recommendations were made to establish three subcommittees on Statistics, Research and Standards of Care. Meetings of these subcommittees made up of additional experts in statistics, medicine and nursing were held. It is anticipated that all of these groups will play an increasingly important role in the future development of the program of the Division and in fostering closer ties between public health, clinical and academic spheres of interest in the maternal and child health field.

## **Indices of Progress**

Maternal and infant mortality rates are widely recognized as valuable reflections of the general level of maternal and child care in any country. Reduction in needless maternal and infant deaths remains a prime objective in all maternal and child health programs.

## **Maternal Deaths**

In 1957 there were 255 deaths of mothers in Canada. This represented a rate of 0.5 deaths per 1,000 live births. In 1947 there were 554 deaths and a rate of 1.5 deaths per 1,000 live births.

Many of these maternal deaths are preventable. This is shown by Maternal Mortality Studies which are being carried out in five provinces. For the second year haemorrhage was the leading cause of death; other important causes were toxemia of pregnancy and sepsis.

## **Infant Deaths**

In 1957, there were 469,093 live births in Canada and 14,517 infants died in their first year. This represented an infant mortality rate of 31 per 1,000 live births. The rate ten years ago was 46. Canada has obviously shared in the world wide improvement in infant mortality. We have cause for concern, however, since many other countries with no higher standards of living save more infant lives. In 1957, 12 countries had lower infant mortality rates.

Deaths in the first month of life make up a significant proportion of the total. In 1957, 9,478 deaths, or 65 per cent occurred in the first month of life. If to 9,478 newborn deaths are added 6,837 stillbirths, the total of 16,315 Canadian infant lives lost before one month of age is formidable. The magnitude of this loss is illustrated by the fact that in 1957, this number of deaths was exceeded only by deaths at all ages from malignant disease and heart disease.



Study of the causes of infant deaths and particularly deaths in the newborn period reveals the fact that premature infants, those who are born too soon, are much more liable to die than infants born at term. This indicates the importance of care of the mother during pregnancy and confinement, and since 90 per cent of infants are now born in hospital the responsibility carried by hospitals is heavy. It is clear, however, that all health workers, in and out of hospitals, must be concerned if further improvements in maternal and child care are to be achieved.

TABLE 10  
EXPENDITURE OF NATIONAL HEALTH GRANTS  
1953-59

Crippled Children Grant	Funds Available	Funds Expended	Per Cent Expended
Year			
1953-54.....	\$519,898	\$449,214	86
1954-55.....	519,898	427,319	82
1955-56.....	519,898	415,973	80
1956-57.....	519,898	465,751	89
1957-58.....	519,898	473,291	91
1958-59 (a).....	519,898	413,522	79
Child and Maternal Health Grant			
Year			
1953-54.....	500,000	114,341	23
1954-55.....	1,000,000	560,385	56
1955-56.....	2,000,000	1,009,408	50
1956-57.....	2,000,000	993,277	50
1957-58.....	2,000,000	1,165,550	58
1958-59 (a).....	2,000,000	1,700,420	85

(a) Preliminary figures.

## DENTAL HEALTH DIVISION

The work of the Dental Health Division is designed to maintain and to improve general health by the prevention and control of tooth decay, malocclusion and periodontal disease. Research, related to preventive measures, which may lend themselves to mass application, particularly for the prevention of caries, is planned, conducted and encouraged. An effort is made to produce more and better health education materials, chiefly for use in schools and to influence the thinking of parents of young children. Technical information and advice, especially in relation to preventive measures and to the development of child dental care

programs, are made available to interested individuals and agencies, including provincial departments of health and other branches of the Federal Department.

The cumulative nature of caries from the time the first teeth appear and its partial but significant responsibility for ensuing malocclusion and periodontal disease, have dictated a policy of concentration upon the dental care of the very young children.

### **Research**

The establishment of the Division was changed this year to include as an addition, a Research Dental Officer position. This position, which was filled this year, requires a graduate degree in basic medical science in addition to a dental degree.

The survey work of the final phase of the Brantford-Sarnia-Stratford Water Fluoridation Caries Study was completed this year. The final data, now undergoing analysis, will show what changes in the prevalence of caries have taken place in Brantford during 14 years of fluoridation.

A study of the effectiveness of a topical application of an 8 per cent solution of stannous fluoride for the prevention of caries, which began two years ago, was continued this year. About seven hundred children are included in this study. A new one, involving some 1,200 children and also using an 8 per cent solution of stannous fluoride, was begun this year.

As this substance holds out good possibilities of effective use in public health programs but will require many years of research, an effort is being made to encourage provincial departments of health to undertake certain modifications of the study patterns followed by this Division.

### **Health Information**

A revised edition of *The Dental Health Manual*, a dental health source book published for the first time in 1951 for the use of public health and teaching personnel "engaged in teaching dental health", was published in both English and French. The demand for all dental health publications produced by this Department continues to increase.

### **Health Grants**

A representative from the Division assists the Health Grants Officials of the Department in discussions with provincial officials concerning grant-aided dental programs. These programs are visited annually by a member of this Division and their operation discussed with the provincial dental consultant. Reports are written on all dental projects for the use of the Principal Medical Officer, Health Grants Administration and his officers.

### **Liaison Services to Indian and Northern Health Services and to Civil Defence Health Services**

These two branches of the Department require much more assistance from this Division than do the others. Therefore one dental officer has been assigned to devote at least half of his time to assisting the Indian and Northern Health Services Directorate. Here, he studies problems connected with providing dental services

for Indians, Eskimos and other residents of northern areas and assisting in technical matters relating to the administration of the Dental Service of that Directorate. The greater part of the remainder of his time has been assigned to liaison work with Civil Defence Health Services. Here, he assists in matters relating to the training of dentists to participate in mass casualty care in the event of an atomic disaster.

### **Other Activities**

Members of the Division participated in the programs of several dental and public health meetings, delivering addresses, taking part in panel presentations or demonstrating the use of health education materials.

Liaison was maintained with the Canadian Dental Association, through its Public Health Committee, Health Insurance Committee, Research Committee and its Council on Dental Education.

### **Consultant Services**

Advice and assistance is made available to any branch of the Department whose work is in any way related to the dental field. During a year, a considerable number and variety of verbal and written requests for information are handled.

## **EPIDEMIOLOGY DIVISION**

The purpose of the Epidemiology Division is to provide an epidemiological service at the national level. The scope of this service is best described by a definition of epidemiology as "the science concerned with factors and conditions which determine the occurrence and distribution of health, disease, defect, disability and death in populations".

The primary functions of the Division are epidemiological research, consultation and technical information.

### **Lung Cancer Study**

A continuing prospective study on the relationship of residence, occupation and smoking habits to death from lung cancer and other selected causes among recipients of veteran's and widow's allowances is being conducted by the Epidemiology Division and the Research and Statistics Division together with the Department of Veterans Affairs. As yet the number of reported deaths from all causes among smokers and non-smokers does not provide any reliable assessment of death rates. Preliminary analysis, however, indicates that death among smokers, as compared to non-smokers, generally exceeded the expected number in all age groups up to age 80.

### **Leukemia Study**

A follow-up study of children born in the years 1939-55 who had been exposed to x-rays before birth was undertaken in co-operation with a large Ontario hospital. Special attention is being given to the possible subsequent development of leukemia or other forms of cancer in these children.

**Accidents to Patients in Hospitals**

In March, 1959, a study of the causes and types of accidents to patients in five Ontario hospitals was initiated. All accidents to patients will be reported to the Epidemiology Division on special reporting forms for later analysis.

**Staphylococcal Infections in Hospitals**

The Division is co-operating with the National Research Council Associate Committee on Control of Hospital Infections in analysing reports from approximately 85 hospitals across Canada that have agreed to co-operate in this study. The purpose of this committee is to study the problem and to make recommendations concerning the control of staphylococcal infections in hospitals.

**Paralytic Poliomyelitis**

During the poliomyelitis season, Provincial Departments of Health sent weekly telegraphic reports of paralytic poliomyelitis cases to the Division from which summaries were prepared and distributed. At the end of the year, further information relating to paralytic cases was obtained and analysed. The high proportion of cases amongst pre-school children and of deaths in young adults emphasized the need for more extensive immunization of these groups, especially the latter whose estimated poliomyelitis immunization status was very low.

**Tuberculosis**

Visits were made by Division Medical Officers to various sanatoria in Ontario, Quebec and the Western Provinces as part of the Division's function to study and make recommendations concerning the allocation of national tuberculosis control grants. Special attention was given to the improvement of case finding efforts.

**Venereal Disease**

Two hundred cases of acquired syphilis primary and secondary were reported in Canada in 1958. The average for the preceding three years was 180 cases.

There were 14,836 cases of gonorrhea reported in 1958. The average for the preceding three years was 14,386 cases.

To assist in the control of these infections, applications for national venereal disease control grants were studied and recommendations made. Notifications of individual contacts were forwarded when received from international or provincial sources.

Semi-annual statistical tables were published and a technical manual for physicians entitled *Syphilis and Gonorrhea* was revised and printed.

**Epidemic or Unusual Communicable Diseases**

Medical assessment was made of current national and international epidemiological information. Summary reports were published periodically for the use of Medical Officers of Health and other professional public health personnel.



**Literature Research and Collection**

Seventy-five journals and 125 reports were monitored monthly and references of interest to the Division were indexed.

**Technical Enquiries**

In the 12-month period ending March 31, 1959, the Division received 233 professional and 119 lay enquiries originating outside federal agencies.

**Scientific Reports**

Articles on original work done by the Division are published when appropriate. Illustrating the newer fields of epidemiological interest, a report appeared during the year on accidental home poisonings. This included information about environmental factors, types of poisons, the age of children taking poison, treatment given and the degree of carelessness involved in the poisonings.

Medical Officers of the Division prepared and delivered papers of epidemiological interest at several professional meetings.

**HOSPITAL DESIGN DIVISION**

This Division is a consulting service to provincial health departments and to those concerned with the planning and operation of hospitals. It co-operates with the provinces in their efforts to promote sound planning for health institutions of all types.

Plans of every hospital requesting assistance under the Hospital Construction Grant in the National Health Grant Program are studied to see that they conform to minimum standards of hospital construction as prepared by this Division. These plans are also studied to determine the amount of federal assistance payable under the terms of the grant.

**Consultations**

The provinces, as well as a number of architectural firms, forward drawings to this Division during their preliminary stage for criticism and consultation prior to submitting a formal request for federal assistance. The advantage of this procedure is that the plans can be easily altered at an early stage in their development. This Division produces alternate plans which are adopted wholly or in part for hospital projects.

Additional personnel has permitted this Division to undertake research planning in the field of chronic hospitals, geriatrics, and in active treatment hospitals' operating rooms and nurseries. It is expected that some of these research projects will be completed by 1960.

The Chief of the Division is beginning research in the field of chronic and geriatric patients by visiting numerous hospitals in England and on the continent of Europe. A report of these visits will form the basis of the research program, as it is acknowledged that England and the European countries have made great strides in these fields.



### **Hospital Construction Grant**

In the past fiscal year, many amendments were approved for renovation programs that form part of a construction program. These reviews involved the evaluation of the request in relation to the program as a whole to ascertain if minimum standards were being met and if the integration of the services contained in the renovations provided a good hospital service.

Many projects are being submitted for renovation programs which do not involve new construction. This is considered a healthy aspect in the field of hospital construction, as many hospitals are improving their ancillary services as well as their diagnostic, therapeutic and treatment services to bring those services in line with the number of patient beds provided in the hospitals.

Since the inception of the Hospital Construction Grant in 1948, more than \$116,406,016 has been allocated towards the construction of accommodation for more than 77,053 patient beds of all types, 10,012 bassinets for newborn, 15,493 nurses' beds and 330 interns' beds. Grants have also been approved on a floor area basis for community health facilities, which include such areas in hospitals as out-patient departments, emergency, radiology, laboratories, pharmacies and remedial therapy departments. Grants on a similar basis are also approved for training areas for hospital personnel.

Conferences were held on hospital planning and to study problems pertaining to the Hospital Construction Grant with provincial health authorities in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Nova Scotia. Many hospitals throughout the country were visited at their request to assist them with their planning problems, and similarly, many conferences were held in Ottawa with hospital authorities and their architects with regard to possible federal construction grants and constructive criticism of their proposed plans.

### **Other Activities**

During the past year, the Chief of the Division presented papers on various subjects relating to hospital planning to the Western Institute for Hospital Administrators, the Institute on Hospital Insurance in Halifax, the Joint Meeting of the American Hospital Association and the Ontario Hospital Association in Toronto, and to the Rotary Club in Sherbrooke. He also gave a day of lectures on hospital planning to the students of the Hospital Administrators' Course at the University of Toronto. He has continued to act in a consulting capacity for hospital planning for the Armed Forces and is a member of the Hospital Requirements Committee (National Defence) and the Committee on the Control of Infections in Hospitals, as well as acting as chairman of the Canadian Standards Association Committee on Safety Code for Hospital Hazards. Papers were also prepared and given by a member of the Division to a district medical group in Sherbrooke and an article was written for the monthly publication *L'Hôpital d'aujourd'hui*.

### **LABORATORY OF HYGIENE**

As Canada's national reference laboratory in the field of public health, the Laboratory of Hygiene continues to play a leading role in many health conservation activities. It combines in one institution, bacteriological, biologics control, biochemical research, clinical, virus and zoonosis laboratories, with associated

animal breeding and administrative services. It is housed in three buildings—the central Laboratory of Hygiene building located in Tunney's Pasture, the Virus Section which, for reasons of safety, is located in a separate building in Tunney's Pasture, and an Animal Breeding Unit located in Wrightville, P.Q. Plans are being prepared for the establishment of a new animal breeding unit which will also be located in Tunney's Pasture.

### **Bacteriological Laboratories**

The principal function of these laboratories is to act as a national reference centre for the identification of special groups of bacteria and for the preparation of and distribution to the provincial departments of public health of reagents to assist them in the laboratory diagnosis of special pathogenic bacteria.

### **Enteric Bacteriology**

More than 600 'types' of enteric bacterial pathogens, that is, those bacteria which produce typhoid fever, paratyphoid, dysentery, infantile diarrhoea and like diseases in man and enteritis in animals, have been described. It therefore becomes a highly specialized task for a laboratory to identify one of these organisms and this has led to the establishment in many countries of a national centre to which cultures of this kind can be referred for identification. These laboratories serve as a national reference centre and during the year received 1,210 cultures for identification. Six 'types' not previously reported in Canada were identified during this period. In addition, as a means of maintaining a high quality of work throughout the country, 231,700 ml of carefully standardized diagnostic reagents were prepared by these laboratories and distributed to other laboratories during the year.

### **Staphylococcal Investigations**

Staphylococcal infections in hospitals continue to be a serious problem in Canada as in many other countries of the world. 'Typing' by means of bacteriophages, or to put it colloquially, finger-printing, of the strains which cause outbreaks in hospitals is essential to the detection of the way in which these outbreaks arise and spread, and to the measures necessary to control them. These laboratories act as the national centre to which strains can be referred for specific identification. During the year, 3208 cultures were received for phage typing and, in addition, this centre assisted the provincial and other laboratories by preparing and distributing to them standard 'phages' and strains (reagents) for them to do their own typing. Close association was maintained with the International Committee on Typing; a number of talks were given at scientific meetings; a collaborative investigation on 'carriers' is being undertaken with Queen's University.

### **Other Special Groups**

A total of 1,234 cultures of hemolytic streptococci and 26 cultures of *C. diphtheriae* were also received for special study and 592 ml of diagnostic antisera for the streptococci were prepared and distributed.

### **Sanitary Bacteriology**

Through the use of a mobile laboratory, bacteriological surveys of a number of shellfish-producing areas in the eastern Maritime Provinces and in Quebec were carried out. This constitutes part of the Department's responsibilities for controlling the safety of the areas from which shellfish can be harvested for sale. Another part of this control is concerned with the safety of shellfish from "paralytic poison". The laboratory assayed 925 specimens of shellfish for this poison and assisted the Fisheries Department in the successful control of this hazard. Special investigations on a method of cleansing clams and on the sanitization of glasses in beer parlours were also carried out during the year.

### **BIOCHEMICAL RESEARCH SECTION**

The activities of the Biochemical Research Section have gradually expanded to include several distinct areas of research. These include: (a) Studies on cell nutrition (b) Studies on the metabolism of normal and malignant cells (c) Studies on the action of anti-tumor agents, particularly fatty acids (d) Studies on bacteriological chemistry (e) Postdoctorate training and consultation.

Detailed research has been conducted on the amino acid and carbohydrate requirement of normal tissue cultures. In these studies, inhibition of the cultures by specific analogues and the study of their reversal has made it possible to observe individual metabolic pathways within the cells in terms of enzyme systems. Studies on amino acid pathways in both normal and malignant cells have indicated a possible metabolic difference in regard to the utilization of glutamine. The installation of equipment for high voltage paper electrophoresis has allowed considerable expansion of this work.

The collaborative project of the Laboratory of Hygiene, the Department of Apiculture of the Ontario Agricultural College, and the Department of Therapeutics of the University of Toronto has been continued. The anti-tumor activity of royal jelly has been established and the activity shown to reside in the fatty acid portion of this material. Extensive studies on other fatty acids have been carried out.

In bacteriological chemistry, methods for the recovery, concentration and purification of the lysins of staphylococci have been developed. Studies on the protective and sensitizing properties of these purified lysins are in progress.

The facilities of the Section have been extended to provide postdoctorate training to Dr. Dorothy M. Powelson of Purdue University, Dr. Gloria Webster of the Institute of Parasitology of Macdonald College, and Dr. Francisca Turel of the University of Saskatchewan.

### **BIOLOGICS CONTROL LABORATORIES**

The activities of this Section revolve around the Laboratory of Hygiene's function of controlling biological drugs such as vaccines, toxoids, sera and antibiotics under the Canadian Food and Drugs Act, and its role as a national public health laboratory. Most of the work program within the Section is concerned with the control of these drugs. This involves the inspection of establishments licenced for the manufacture of biological products for sale in Canada, the routine control testing of these products and research related to the improvement of control tests

and to the use of these drugs in the field. Our interest in the testing of diagnostic agents has been continued and the number of samples tested markedly increased. A considerable amount of testing of parenteral drugs, other than those mentioned above, i.e., glandular extracts and non-licensed injectables, are also carried out at the request of the Director of the Food and Drug Directorate.

### ***Routine Control***

The conditions for granting a Canadian Biologics Licence have remained the same. Products for which a Canadian Licence is requested must meet the Canadian requirements; the manufacturing laboratories must pass an inspection showing that they have proper manufacturing and testing facilities; the personnel must be suitably qualified and trained to perform their functions. Periodic inspections are carried out on every plant possessing a Canadian Licence and control tests on market samples are carried out throughout the year. During the fiscal year, a total of 2,535 specimens were received and tested. The control tests included bacterial sterility, animal safety, potency and purity. Thirty-seven inspections were carried out. This included re-inspection of 32 companies already possessing a Canadian Licence and five new applicants. All companies were found to be satisfactory, although minor changes were requested in a number of instances.

### ***Research and Other Activities***

The successful operation of any control program requires an active and effective research program. The greater the knowledge concerning a drug's use and activity, the greater the possibility of producing reasonable and effective drug regulations. For this reason, human field trials on immunization are continuing as well as a number of active studies connected with whooping cough and tuberculosis.

### ***Collaboration with W.H.O. and Other Countries***

The Biologics Control Laboratories again participated in collaborative studies with the W.H.O. on problems associated with the assay of antibiotics. A member of this laboratory attended a special meeting on "Smallpox Vaccine", initiated by the W.H.O. in Geneva.

For the second year, a member of the Pakistan Biologics Control Division spent a year in the Section's laboratories studying methods for controlling biological drugs.

## ***CLINICAL LABORATORIES***

The Clinical Laboratories Section consists of the clinical chemistry and serology units as well as a more recently formed health grants unit.

### ***Clinical Chemistry***

During the year the Department received a recommendation from the National Research Council that standard cyanmethemoglobin solutions be prepared at the Laboratory of Hygiene and be made available to hospital and public health laboratories. These solutions will serve as standards in the determination of hemoglobin. Stocks of the standard solutions have been prepared and final steps are being taken to initiate the program.



Work on the Manual of Clinical Chemistry for Hospital Laboratories has been continued and new outlines of procedures have been prepared. Copies of the Manual are being printed in the French language and will be available for distribution shortly.

Investigations have been conducted on the estimation of cholesterol in the blood.

### **Syphilis Serology**

Efforts have been continued to maintain a satisfactory degree of uniformity in the performance of blood tests for syphilis in Canada. Standard reagents prepared at the Laboratory of Hygiene are used in all provinces. The ninth serological evaluation study (survey) is now in progress and the results indicate that uniformity of testing in the Provincial Laboratories continues to be good.

The Treponema Pallidum Immobilization (TPI) test was performed on 897 specimens received from various parts of Canada. This specific test is technically difficult and it has not been feasible to conduct the procedure in each Provincial Laboratory.

Studies on the preparation of synthetic antigens for the serodiagnosis of syphilis have been continued. It has been possible to prepare a moderately reactive mixture made up of relatively simple, pure compounds. A paper has recently been published which summarizes the findings to date.

### **Blood Grouping and Typing Sera**

A survey of blood grouping and Rh typing sera available commercially in Canada has been conducted in collaboration with the Biologics Control Laboratories.

### **Health Grants**

Consultant services have been given in the consideration of National Health Grant submissions related to laboratory work and in the planning and integration of diagnostic services in the provinces.

## **VIRUS LABORATORIES**

The main routine project of the Virus Laboratories consisted of the safety and potency testing of poliomyelitis vaccines. Thirty-one Canadian and four American vaccines representing over 20 million doses were submitted during the fiscal year. All vaccines were found to be safe and only one did not pass the governmental test for potency.

Over 500 clinical specimens of human origin and about 300 human sera were received for virus isolation and serological identification of viral diseases. Over 5,000 tests were carried out with these specimens. Seventy-seven viral agents, including numerous strains of Poliomyelitis, Coxsackie, Echo, Adeno and Influenza virus were isolated from these specimens.

Diagnostic antigens for over 7,600 tests on viral and rickettsial diseases and antisera for over 30,000 tests were supplied to the Provincial Laboratories of Health during the fiscal year. Standardized antigens and antisera for the Adeno virus group were added to the list of reagents supplied by the Virus Laboratories.



Several laboratory surveys of epidemics of respiratory diseases in various Canadian provinces were carried out and Adeno virus type 3 was found responsible for outbreaks during the months of November and December/1958. Epidemics in February and March/1959 were mainly caused by Influenza virus type B.

Investigative studies on variables influencing the preparation of Influenza vaccines with formaldehyde were completed and the results published.

Methods of producing virus vaccines with the aid of gamma radiation are under investigation.

Research is continuing on the improvement of safety and potency tests for polio vaccines and the establishment of a stabilized standard vaccine. The initiation of control procedures for the newly developed measles and oral polio vaccines is planned.

Further efforts are being made to establish tissue culture lines susceptible to the Cocksackie A viruses.

## ZOONOSIS LABORATORIES

The rodent and avian survey for the detection of *Pasteurella* infections, leptospirosis, rat bite fever and other infections was carried out this year in that part of the St. Lawrence Seaway area lying between Cornwall and Kingston, Ontario.

A serological survey of meat handlers at a local meat packing plant for evidence of present or previous infections transmissible from animals was begun.

A beginning was made on a collaborative study with the Ontario Department of Health to conduct a Q fever survey of cows' milk in Ontario.

Also initiated this year was a collaborative survey with the Canada Department of Agriculture to determine the incidence of arthropod-borne encephalitides in mosquitoes of Alberta.

## PARASITOLOGY

The Institute of Parasitology of McGill University serves as the Parasitology Section of the Laboratory of Hygiene. In particular, this Section offers services to the provincial departments of health for the diagnosis of parasitic infections, the identifications of parasites of man, and the distribution of hydatid and trichina antigens. A program of evaluation of diagnostic services, provided by the provincial laboratories, is being carried out by the submission of unknown specimens. In addition, refresher courses in advanced parasitological techniques are made available to hospital and public health laboratory technicians.

A major program of research is carried out with special emphasis on the pathology of parasitic infections in humans and the infections of animals liable to be transmitted to man. Current investigations include Amoebiasis, Hydatid, Trichinosis, Ascariasis, etc.

During the past year, a total of approximately 2,400 hours of work were performed on behalf of the Laboratory of Hygiene. This figure does not include the time spent on research of special interest to the Department of National Health & Welfare.

## MEDICAL REHABILITATION AND DISABILITY ADVISORY SERVICE

In keeping with the greater emphasis given to the development of programs to assist impaired and disabled individuals at various government levels, the general activities of this advisory service in both functional areas were increased during the year under review.

### *Medical Rehabilitation*

The main provision of consultative services was to the National Health Grants Administration. All provincial projects, submitted under the Medical Rehabilitation Grant, were comprehensively appraised on the basis of their suitability in the overall local provincial program of medical rehabilitation and adequate suggestions and recommendations were made.

Advisory service was also made available to provincial officials responsible for Medical Rehabilitation Programs on the occasion of visits undertaken in all provinces during the year by one or more of the three consultants.

Numerous requests for information and guidance by voluntary organizations and private institutions were received during the year. Appropriate attention was given by the Service through replies to written inquiries, personal interviews or participation at meetings.

Most of the annual meetings of professional bodies, whose members are part of the Medical Rehabilitation Team, were attended by one of the consultants.

Special contributions were offered by consultants during the year on panels organized for a Rehabilitation Conference in Fredericton; for meetings of Provincial Co-ordinators of Rehabilitation, Ottawa and Toronto; for the International Northern Great Plains Conference on Rehabilitation and Special Education in Saskatoon; and for the Second Atlantic Workshop on Rehabilitation at Grand Tracadie, P. E. I.

The Medical Consultant and Chief of the Service attended, as departmental representatives, both the Fall and the Spring meetings of the National Advisory Committee on Rehabilitation of Disabled Persons at Ottawa and Toronto.

Liaison was maintained with other divisions of the department dealing with the subject of medical rehabilitation and with other government departments having responsibilities in the field of rehabilitation.

### *Disability*

On the occasion of the above-mentioned visits to the provinces, discussions were held with all federal medical representatives. In many instances, a regular session of the local Medical Review Board was attended by the visiting consultant.

The number of federal medical representatives has been increased to four in Quebec. Certain modifications of procedures, aiming at a more uniform interpretation of the Disabled Persons Act and Regulations by the provincial medical review boards, have followed an indoctrination meeting held in Ottawa for Quebec medical representatives of the Federal Government on the local Medical Review Board.

Statistical material, prepared on the Disability Allowances Program by the Research and Statistics Division of the Department, has been given necessary

emphasis by the consultants during interviews with medical review board's people with the purpose of trying to integrate, at the local level, both programs of Medical Rehabilitation and of Disability Allowances.

Advisory liaison has been maintained between the Service and the Division of Old Age Assistance, Blind Persons and Disabled Persons Allowances in the Welfare Branch of the Department.

### MENTAL HEALTH DIVISION

The broad field of mental health continues to be the largest special medical and hospital problem in Canada. Throughout the past fiscal year, the Mental Health Division has worked in the closest co-operation with the various provincial mental health services in an attempt to understand the many facets of this great challenge to public health. Those developments which appeared most likely to lead to an improvement in treatment services were actively promoted and, at the same time, a study was made of the university departments of psychiatry and psychology. These latter are of extreme importance because upon the nature and quality of training given to all grades of personnel, depends the vigor and strength of the attack upon mental illness.

#### *Mental Health Grant*

Total allocations under the Mental Health Grant exceeded \$7,251,000, which was an increase of \$201,571. The following table, showing the distribution of funds, indicates that the trend in allocations has remained essentially the same as in the previous year.

#### DISTRIBUTION OF FUNDS APPROVED

	1957-58	%	1958-59	%
	\$		\$	
Mental Health Divisions.....	193,515	2.8	213,623	2.9
Mental Hospitals.....	3,767,481	53.4	3,845,568	53.0
Mental Health Clinics.....	869,317	12.3	903,789	12.5
Psychiatric Services in General Hospitals...	922,907	13.1	919,567	12.7
Training Programs.....	220,072	3.1	252,979	3.5
Bursaries.....	542,531	7.7	556,666	7.7
Research.....	534,119	7.6	559,321	7.7
Total.....	<u>7,049,942</u>	<u>100.0</u>	<u>7,251,513</u>	<u>100.0</u>

The continuing shortage of qualified professional personnel is one of the most serious aspects of mental health programs in this country. Further and more vigorous efforts will have to be made in this area.

#### *Consultant Services*

The Mental Health Division consists of a small but highly trained professional staff, headed by the Chief of the Division, a qualified psychiatrist, who is assisted by consultants in psychology, social work, statistics and research, and a technical officer.

An important aspect of the work of the Division has been the provision of consultant services to the provinces, to other divisions of the Department, and to other federal government departments. In addition, personnel have been made available to the provinces for discussions on research design, training and personnel, and other related topics. Important contacts with mental health personnel were maintained by the attendance of consultants and the Chief of the Division at meetings of professional associations and visits to many of the mental health facilities throughout Canada.

By personal contact and by correspondence the Chief of the Division has kept in close touch with the progress of mental health in the provincial services and in the various universities. In addition, he visited mental health facilities in Britain to learn at first hand about some of the new developments in that country, with particular emphasis upon the development of psychiatric services in general hospitals—a subject of major concern to mental health authorities in Canada.

Stemming from concern about the lack of sufficient training facilities for psychologists in Canada, the consultant in psychology initiated a review of all university graduate departments of psychology.

The first conference of Chief Social Workers from provincial mental health divisions was convened and chaired by the consultant in social work. At this meeting eight provinces were represented.

Assistance to various investigators conducting research under the Mental Health Grant was given by the consultant in research and statistics. In addition he gave valuable assistance to Verdun Protestant Hospital, Brandon Hospital for Mental Diseases, Brandon, Manitoba, and to the Psychiatric Unit of the Ottawa General Hospital, in their studies of admissions and discharges.

### **Public Education**

The program of public education continued to be an active function of the Division. One pamphlet in the Child Training series and two pamphlets dealing with mental health of older people were prepared during the year. The total distribution of English and French pamphlet material to the provinces increased by 705,000 to a total of 2,155,000.

*Canada's Mental Health*, a monthly news bulletin, issued by the Division as a complimentary service to professional people in the mental health field, reached a circulation of 4,000 which was an increase of 900 over the previous year.

Mental health displays were exhibited at the annual meeting of the Canadian Psychiatric Association in Halifax and the Canadian Conference on Social Work in Montreal.

### **Advisory Committee on Mental Health**

The tenth meeting of the Advisory Committee on Mental Health was held in Ottawa during January, 1959. This 18-member committee is composed of the ten provincial mental health directors, four professors of psychiatry, one professor of psychology, one professor of social work, as well as a representative of the Canadian Psychiatric Association and the General Director of the Canadian Mental Health Association. Also attending the meeting were representatives of the Department of Veterans' Affairs, Department of Justice, and the Dominion Bureau of Statistics.



Two days were devoted by the Committee to discussions of the problems, as well as new developments, in the field of mental health. Topics included psychiatric units in general hospitals, open mental hospitals, rehabilitation, day hospitals in relation to hospital insurance programs, mental health grants, research, statistics, and alcoholism. Five subcommittees were nominated by the Committee as follows: Research, Addiction to Alcohol and Other Drugs, Statistics, Public Education and Training. These subcommittees are composed of small groups of experts in the various fields and meet several times during the year before reporting to the annual meeting of the Advisory Committee.

### NURSING CONSULTANT

Throughout the year, the Chief Nursing Consultant has continued to act in a liaison capacity between the Department and the Canadian Nurses' Association and its constituent parts, the provincial nurses' associations. In addition, certain nursing services of an advisory nature have been provided (a) within the Department, (b) to other Departments, e.g., Technical Co-operation Service, Trade and Commerce, (c) to individuals and groups outside Government Service.

Assistance with evaluation of nursing projects submitted by the provinces under the National Health Grants Program has continued to be a major responsibility.

The Chief Nursing Consultant represents the Department on a number of committees including: the National Advisory Nursing Committees of both St. John Ambulance and Red Cross; the National Committee on Homemaker Services of the Canadian Welfare Council; several special and standing committees of the Canadian Nurses' Association.

During the year, the Chief Nursing Consultant was invited by the Minister of National Defence to serve on the Board of Consultants to the Canadian Forces Medical Council.

In June, 1958, the Canadian Nurses' Association held its 50th Anniversary meeting in Ottawa. Together with other Departmental nursing personnel, assistance was given with various aspects of the program for this meeting.

One of the valued contacts which has been built up over the years has been supplied by the visits to the Department of post graduate nursing students from various universities—the University of Ottawa, the University of Montreal and the School for Graduate Nurses of McGill University. The Chief Nursing Consultant together with other Departmental nursing consultants, and generously assisted by the Departmental Secretary and various Divisional chiefs, has continued to arrange programs for these groups.

Attendance at professional meetings during the year has included the annual meetings of the Registered Nurses' Association of Ontario, the Ontario Public Health Association, the American Public Health Association, and the Biennial Meeting of the Canadian Nurses' Association. Papers were given at several of these meetings, together with addresses to the graduating classes of two hospital schools of nursing.

Field trips in Canada were not extensive this past year, as all provinces were visited in the previous year. There were, however, a number of brief visits on a request basis in Ontario.



In the Autumn of 1958, following attendance at the American Public Health Association Meeting in St. Louis, visits were made to a number of American cities to gather information concerning the medical and nursing aspects of Home Care Plans.

Until recently, the "consultant" part of the Chief Nursing Consultant's function was almost entirely intra-Departmental in nature. With the implementation of the hospital and diagnostic services insurance plans, availability of certain consultative nursing services to the provinces, on a request basis, would appear desirable and timely. Accordingly, authority has been granted for the appointment of an additional nursing consultant, well qualified in the hospital field, who could act in this capacity. With the appointment of such a person, the eventual development of more effective nursing consultant services to the provinces is anticipated.

## NUTRITION DIVISION

### *Introduction*

Although sufficient food is available in Canada to provide an adequate diet for everyone, the country is not without nutritional problems. To some extent, these problems are due to inadequate purchasing power but, more frequently, they result from ignorance and indifference.

It is the role of the Nutrition Division to define Canadian nutritional problems, to work towards their solution, and to promote the development and maintenance of high levels of nutrition for the entire population. This role is pursued by an active research program, which includes socio-dietetic food habit surveys and biochemical studies of selected population groups, and by the provision of information and consultation services, chiefly through provincial health departments.

With the extension of government supported hospital insurance programs, increased attention is being given to the development of standards for institutional feeding and the improvement of food service in hospitals.

### *Research*

A study of older people, started in 1957, was extended by the inclusion of population samples from two cities, one in Ontario and one in Manitoba. Information concerning food habits and social conditions was obtained from 208 participants. Blood (103) and urine (201) samples were collected for analysis in the Nutrition Laboratory. Plans are underway to carry out the next phase of the study in Prince Edward Island.

In February, two years after their relocation in Canada, Hungarian forestry students at the University of British Columbia were re-surveyed by a team consisting of a nutritionist, a sociologist, and a laboratory technician. Food and social records, and blood and urine samples, were obtained from 100 students. Results of this second survey indicate that most of the students have adapted to Canadian food practices and are in better nutritional condition than they were a year previously.

Statistical food consumption data, evaluated in terms of nutrients, confirm the continuing overall adequacy of Canadian food supplies. A summary of these data for the years 1939-56 was prepared for publication. Other work included the assessment of Canadian protein consumption in terms of amino acids and the nutrient evaluation of two specific Eskimo diets.

### **Laboratory Services**

The Clinical Nutrition Laboratory employs micro-methods to determine the presence of specific nutrients and other factors in small samples of blood and urine. These analyses, as a part of survey routine, provide objective information about the nutritional status of subjects.

The facilities of the laboratory, unique in Canada, are available to provincial health departments, and through them to physicians, as a useful diagnostic tool. Increasing use is being made of this service as its availability becomes more widely known.

During the past year, current analytical procedures have been reviewed and methods for additional analyses have been developed. Total lipids (in blood) can now be determined routinely and quantitative procedures for B-vitamins in urine will soon be included.

Fewer tests were carried out than during the preceding year, partly because more time consuming procedures (e.g., lipids) are now included. On 834 serum samples, 3,199 tests were done; on 1,216 urine samples, 4,267 tests. (See following table for breakdown of tests.)

The co-operation of the Biostatistics Section of the Research Division on various aspects of the research program is appreciated.

### **Experimental Kitchen**

Development and standardization of recipes for use in cooks' courses and for publication in a food service manual for small institutions was continued although work was carried on under difficulties after the October explosion.

### **Education and Information**

A popular report setting forth the results of the nutrition survey in New Brunswick, 1956 to 1958, was prepared in co-operation with the provincial health department. This report was used in a follow-up program which aroused considerable interest among professional and lay groups.

The English version of a film, *Mystery in the Kitchen*, dealing with the function of food, and a poster, *Time for a Good Noon Meal*, was produced in English (73,500 copies) and French (36,800 copies).

Booklets, manuals and other publications of proven usefulness were reprinted for distribution by provincial health departments and/or sale by the Queen's Printer. *Canadian Nutrition Notes*, an 8-page monthly bulletin, continued to be produced for distribution to a mailing list of approximately 8,000.

At the request of the Prince Edward Island Health Department, assistance was given in planning a short course for cooks in small institutions, and a manual on food preparation in small institutions was prepared and sent for evaluation to provincial nutritionists, with whom the request originated.

### **Consultation and Advisory Services**

Within the Department, the Division provided advice and assistance in the form of lectures and technical service to such divisions as Civil Defence, Civil Service Health, Indian Health Services, the Cafeteria Committee and the Health Grants Directorate.

Among other government departments and outside agencies, similar assistance was rendered to the Department of Citizenship and Immigration, Northern Affairs, Department of Transport, Department of Public Works, various municipal hospitals and the Canadian Boy Scouts Association.

The Chief of the Division served as a member of numerous government, national, and international nutrition committees.

### **Advisory Committees**

The Canadian Council on Nutrition, meeting in June, 1958, reaffirmed an earlier resolution giving emphasis to the need for continuing nutrition education. Other resolutions favoured the holding of a nutrition conference; approved plans for the development of the revision of the Canadian Dietary Standard; reaffirmed the stand against inclusion of vitaminized apple juice in Canada's Food Rules; recommended a downward revision of permitted vitamin D potency in a recommended daily dose; and expressed support for the Food and Drug Directorate's efforts to control claims for mineral elements in foods and in pharmaceutical preparations.

The Council suggested that the Nutrition Division should act as a repository for one copy of the report of any food habit study carried out in Canada.

The Dominion Provincial Nutrition Committee, composed of a nutritionist from each province and Nutrition Division staff, met immediately prior to the Council. Discussions included hospital insurance, federal and provincial activities, and a very useful session on educational materials.

TABLE 11  
NUTRITION LABORATORY SERVICES 1958-59

## SERA

Origin	Total Specimens	Vitamin A	Carotene	Vitamin C	Total Protein	Cholesterol	Lipids	Hemoglobin
Eskimo (from C. D. Howe)	202	—	—	—	—	—	159	—
Eskimo (from Univ. of Manitoba)	244	244	244	244	—	244	244	—
Ottawa (old age)	17	17	17	17	17	—	—	17
Winnipeg (old age)	86	86	86	86	86	—	—	86
Hungarians (Sopron)	100	100	100	100	100	—	—	100
Indian (Old Crow)	39	39	39	39	39	39	39	—
Laboratory Services to Physicians and Provincial Health Departments	144	144	136	137	120	15	1	8
Civil Service Referrals	2	2	2	2	2	—	—	2
Totals	834	632	624	625	364	298	443	213

## URINE

Origin	Total Specimens	Thiamine	Riboflavin	Niacin	Sugar	Ketone	Albumen	Other
Eskimo (Rankin Inlet)	154	154	154	154	154	154	154	154
Ottawa (old age)	104	104	104	104	—	—	—	—
Winnipeg (old age)	97	97	97	97	—	—	—	—
Hungarian (Sopron)	100	100	100	100	—	—	—	—
Laboratory Services to Physicians and Provincial Health Departments	757	757	757	757	—	—	—	—
Civil Service Referrals	4	4	4	4	—	—	—	3
Total	1,216	1,216	1,216	1,216	154	154	154	157

Total Specimens 2,050  
Total Tests 7,466

## OCCUPATIONAL HEALTH DIVISION

Throughout the past fiscal year, a growing interest has been exhibited, on the part of provincial governments, municipalities, and private industries, in matters related to air pollution; occupational diseases resulting from use of newer chemicals, such as insecticides or components in manufacturing processes; diseases associated with exposure of workers to the better known toxic substances as well as the organization of occupational health services, particularly nursing services in places of employment. The Division has also been called upon more and more to assist other Federal Government departments with problems encountered in housing their employees and protecting them from certain environmental conditions which constitute potential hazards to their health and well-being.

The work of the Division may be dealt with specifically under five headings as follows:

### **LABORATORY SERVICES**

Two major interests in occupational health are actively investigated within the laboratory.

#### **Biological**

Due to the extensive use of chlorinated hydrocarbons such as solvents, refrigerants, cleaning fluids, insecticides, and fire extinguisher fluids, studies of the toxic effects of these materials have been carried out specifically on 1, 2-dichloroethylene, tetrachloroethylene, cyclohexane, and the three isomeric xylenes. These studies are particularly concerned with the biochemical mechanisms underlying the changes in these substances when absorbed in the body. Also in this area of study, the enzyme which hydrolyzes the insecticide paraoxon has been separated and purified to a degree which permits further extension of the study of the toxic effect of this insecticide.

With the growing complexity of the number and types of air pollutants encountered in industrial and municipal areas in Canada, studies are being carried out in the exposure chambers operated by this Division to determine the toxicological and other biological actions of toxic gases such as hydrogen cyanide, sulphur dioxide, and nitrogen dioxide. These toxic substances are being studied in combination with one another, simulating conditions experienced in actual air pollution.

An investigation of the relationship between fatigue and cardiac damage is being carried out for the purpose of clarifying some features of industrial fatigue.

#### **Environmental**

Investigations were carried out by the field engineers of the Division in a number of R.C.M.P. indoor firing ranges to determine the potential lead hazard, and recommendations were made for the elimination of this hazard. Similar studies were also carried out in other government establishments at the request of the following: National Film Board, Canadian Arsenals Limited, National Research Council, Printing Bureau, and the Department of National Defence.



A report on developments in the Canadian mining industry, 1955-57, was prepared for the International Labour Office. In reply to requests from private industry, information was given on the control of hazards associated with plastic dusts, welding fumes, and organic mercury.

A considerable amount of work has been undertaken in the development of methods for identifying and analyzing air pollutants since the complex and minute quantities of pollutant material found under these conditions do not lend themselves to easy analysis by presently known methods. Among the techniques being used are gas, paper, and column chromatography. A special investigation is being carried on within this service for the purpose of identifying potential carcinogenic agents which may be included among the air pollutants.

In conjunction with the air pollution program of the Division, work is going forward to establish the nature of background particulates found in air samples secured from remote areas in Canada where contamination would not be expected to occur. This background information is essential for interpreting the findings of the air pollution sampling network program.

## **CLINICAL SERVICES**

### ***Medical and Nursing***

Through past experience, it has been recognized that findings of an environmental survey are of little practical use unless given medical interpretation as to their effect on the health of exposed workers. The clinical consultant of the Division has therefore been involved in all the surveys carried out by the field investigators and in all the work carried out under the air pollution program. Greater emphasis has, therefore, been placed on those aspects of environmental survey likely to have the greatest effect on health. In addition, clinical investigations were carried out among government employees experiencing dermatitis through the use of certain types of duplicating equipment; rifle range instructors experiencing lead poisoning; mercury poisoning among employees of a seed processing plant; and a case of poisoning resulting from exposure to an agricultural insecticide. Investigation of pulmonary cancer among certain types of miners is presently under way.

Two Canadian provinces appointed occupational health nursing consultants during the year, and these persons have been assisted by the nursing consultant of the Division in organizing their program.

Several schools of nursing, recognizing the growing interest and need for nurses in industry, have incorporated occupational health subjects into their curriculum. The nursing consultant has been called upon in each instance to assist in setting up the teaching pattern of these subjects and to lecture nursing students concerning the changing needs of industry in the nursing field.

During this year, a meeting was held of all senior occupational health nursing consultants of the various provinces of Canada and senior supervising nurses from major industries in Canada for the purpose of discussing ways and means of meeting industry's requirement for industrial nurses.

## **EDUCATIONAL AND TECHNICAL INFORMATION SERVICES**

This Division provides the media for the dissemination of information on current developments in occupational health in Canada and elsewhere through preparation of articles to be included in the *Occupational Health Review* and the

*Occupational Health Bulletin.* Pamphlets are prepared on subjects of immediate interest and assistance is given to physicians, nurses, safety supervisors, and representatives of management in private industry and provincial governments for the purpose of protecting the health of workers and promoting the development of sound occupational health programs. Two new pamphlets prepared during the year dealt with dermatitis in industry and ladder safety, both of which have been well received and are in considerable demand. A uniform style of illustration, standardized size of publication, type of print, and the use of colour now identify these pamphlets with the work of this Division. Where there is not an expected continuing demand for a certain type of information, a less expensive reprint is prepared and only a limited stock maintained. Other topics dealt with by these pamphlets are as follows: *Overweight, Fatigue, Artificial Respiration, Hazards of Low Voltage Electricity, Narcotics in Industry, Nickel and Its Compounds, Respiratory Protection, and Hazards of Solvents.*

### **ATMOSPHERIC POLLUTION SERVICES**

Because of the highly complex and technical nature of air pollution, this Division, in co-operation with provincial governments, has taken the leadership in all phases of the study of atmospheric pollution. During the current year, expert advice was given on the design of the stack for dispersion and control of radioactive waste products from the Des Joachims nuclear power reactor. Assistance was given to the City of Sydney in coping with its problems associated with the Dominion Steel Company of Canada blast furnaces. Assistance was rendered to the International Joint Commission in the investigation of air pollution in the Greater Windsor-Detroit area. An air pollution investigation was carried out on a second Canadian railway tunnel. Four provincial government departments of health were assisted in the organization and development of air sampling stations as steps towards the completion of a national air sampling network, which will eventually provide data on a continental basis.

Equipment has now been acquired by the Division for the establishment of a demonstration, staff training, and research station to be located in Ottawa. The prime purpose of establishing this station is to provide facilities for training personnel employed by provinces and municipalities for the operation of sampling stations across Canada.

### **EXTRA-MURAL RESEARCH AND DEVELOPMENT**

It has become increasingly obvious that there is a need for stimulating an interest in research into occupational health problems by Canadian universities and other organizations outside the Federal Government. With this in mind, the Division has approached a number of such agencies during the past year. Contacts have been made with internationally known experts in the field of occupational health research, particularly concerning dust diseases and work physiology and toxicity of insecticides. As a result, a number of research projects are now being undertaken outside the Federal Government, some with financial assistance being provided through Federal Health Grants, others through the procurement of funds made available by other organizations.

## PUBLIC HEALTH ENGINEERING DIVISION

Environmental Sanitation has been defined as "the control of all those factors in man's physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival". Only through the concerted effort of many disciplines can a responsibility of such magnitude be successfully fulfilled. As in previous years, the many and varied activities of the Public Health Engineering Division have clearly illustrated that even in those areas of Environmental Sanitation with which it is primarily concerned, there is considerable scope and diversity.

A salient feature of the past year's operation is the continued increase in requests from other government departments for assistance and advice. Though this indication of recognition is certainly gratifying, there is more satisfaction in the knowledge that the Division's engineers have and will be able to prevent many of the problems which arose in the past because of inadequate design, faulty installation and lack of proper operation and maintenance.

As an example of the present day approach, the western region engineers were requested by the Department of Public Works to take part in a 5-year construction program involving establishments of the Indian Affairs Branch, Department of Citizenship and Immigration. This required the engineers to investigate existing water supply and sewage disposal installations, to prepare recommendations and plans for improvement and for future expansion. In all, 30 sites were visited and the necessary information was submitted for review, discussion and incorporation in the overall program.

The administration and performance of duties required under certain statutory acts and regulations still maintains a high priority in the Division's field of endeavour. This is particularly true where the health of travellers and operating personnel of carriers is concerned. In addition to the examinations relating to railway, vessel and airplane sanitation, a continuing survey of milk quality aboard railway diners was maintained. At the request of one of the railways, a report was compiled on the bacteriological quality of milk available from dairies in the City of St. John's, Newfoundland. On the regional level, meetings were held with officials from the Canadian National Railways to discuss the many problems falling within the framework of mutual responsibility.

### **Special Projects**

When the annual program of any agency is reviewed, there are always a number of projects that tend to stand out because of their interesting technical aspects, their influence on human welfare or their general departure from the regular pattern. In this general category the following activities appear to fall:

1. A large scale survey, covering the period April to June, was undertaken to assess water quality in both the Oromocto and St. John Rivers in order to determine which of the two streams would be preferable in the development of a new water supply for the Army's Camp Gagetown in New Brunswick. The study encompassed water availability; capacity potential; and chemical, physical and bacteriological quality analyses.
2. An investigation of sewage lagoon operation at Camp Ipperwash (Army) Ontario, was carried out to evaluate performance under varying loads



and weather conditions and to establish design criteria. With overflowing lagoons in series, the study demonstrated the advisability of providing sufficient area in the first lagoon to handle the total raw load. The placing of a second lagoon in the circuit should assist in reducing coliform counts. Further studies of lagoon operation are being planned.

3. The provision of the Canadian Government Specifications Board's specification 32-GP-141A for fish; fresh, frozen and prepared, include the requirement that clean, safe water be utilized by the processing establishment. Any packing plant that meets the prescribed specifications may designate its product as follows: Fresh Frozen Fish—"Canada Inspected"; Fresh or Processed Fish Unfrozen—"Processed Under Government Supervision".

Toward this end, the Department of Fisheries has requested this Division to survey the water supplies of those plants wishing to use the aforementioned designations. During the winter season, the Maritime engineers conducted investigations of six harbour areas from which sea water is used for fillet washing. In some instances the level of pollution was such that it was necessary to recommend the provision of an alternate supply.

4. At Elk Island National Park, Alberta, the ground water quality is exceptionally poor from a chemical standpoint, while the surface supply is high in taste and colour due to prolific algae growth. Numerous laboratory tests have been carried out in order that an economical treatment procedure can be established for at least one of the supply sources. A small, slow sand filter is now installed so that experimental runs can be initiated in the field.
5. Water supply and sewage disposal requirements for a new townsite necessitated a trip to Frobisher Bay, N.W.T., to conduct a preliminary survey. The water level of the proposed source of supply, Lake Geraldine, intended to serve the new townsite and other interests, must be raised by a dam installation so that there will be water available during the winter months when an eight foot ice cover exists. Calculations of future possible consumption indicate that an auxiliary supply will be necessary and another lake in the area has been suggested for this purpose.

During the visit, water samples were collected from the storage tanks in some of the Eskimo homes. In most cases these showed bacterial contamination and instructions covering disinfection and improved design of the containers (oil barrels) were immediately sent out. An intensive survey of water quality in the Eskimo village is to be carried out during the fiscal year 1959-60.

6. The palatability of the present water supply at Camp Gagetown, N.B. (Army) produced numerous complaints from the consumers. Investigation revealed that the high chloride content (350 p.p.m. avg.) imparted a brackish taste while the manganese level (0.8 p.p.m.) was responsible for chemical taste. Chlorination also aggravated the problem since manganese precipitated as the oxide and frequently a chlorinous odour existed.

Since the bacterial quality of the raw supply (wells) has been very good over the last two years, it was suggested that chlorination be discontinued, but daily sampling for bacteriological analysis be maintained. Such action would

reduce the taste and odour problems due to manganese and chlorine. Treatment for chloride removal would of course be necessary before the brackish taste could be eliminated.

### ***Education—A Two Way Street***

The Division's engineers participated in several lecture courses during the past year.

In Quebec and Ontario, personnel from great lake vessels attending the various marine schools, received instruction and information pertaining to water supply treatment, sewage disposal and galley sanitation aboard vessels.

Maritime engineers took part in the deliberations of various district conferences held for the Fishery Inspection Officers. They discussed the many aspects of shellfish plant sanitation, highlighting water supply and sewage disposal problems.

In the west, lectures on environmental sanitation were given to those attending courses for Sanitary Inspectors and for R.C.M.P. personnel. In addition, the Division prepared and conducted courses for restaurant operators located in the two mid-west National Parks for the purpose of raising the standard in eating establishments.

Two papers published in technical journals and two others delivered at Association Conferences helped to round out the overall education program.

Four of the professional engineers took advantage of special courses provided by the U.S. Public Health Service at the Robert A. Taft Sanitary Engineering Centre in Cincinnati while four others attended either the Industrial Waste Conference held at Purdue University or that at Honey Harbour, Ontario.

### ***Let's Look to The North***

During September, examinations were made of the facilities serving eight Distant Early Warning Line sites. The demand for safe and adequate water supplies and satisfactory sewage disposal procedures in northern climes continued to require considerable attention. Investigation was made of the problems involved, and recommendations covering remedial measures were reported to the authorities concerned. In addition, a sanitary survey of the Yukon Territory was carried out with all major points being visited.

Because of the rapidly growing interest in the north and the realization that environmental sanitation continues to be a major problem, the Division established a position to permit an engineer to concentrate on investigational and research projects directed to this general area. The position has been filled and the work is expected to proceed during the next fiscal year.

### ***Citizenship and Immigration—Indian Affairs Branch***

Aside from the part played in the preliminary phase of the five year construction program, the Division has been involved in numerous projects involving establishments of the Indian Affairs Branch. In both British Columbia and Quebec, surveys and designs for sewage lagoons to serve residential schools at Lejac and Pointe Bleue respectively, merited attention. The staff in Alberta completed surveys, designs, plans and specifications for water supply and sewage disposal installations at Saddle Lake, Hay Lakes, Wabasca, Fort Vermillion and Brocket. They also



exercised casual supervision during the construction period. An examination of water supply and sewage disposal facilities at the Indian Reserve on Walpole Island, Ontario, indicated the need for improvement. Subsequent action based on recommendations submitted has brought about the desired result. A program designed to assess drinking water quality on all Indian reserves in New Brunswick was completed during the year. Plans for the improvement of water supplies at various Nova Scotia reserves were discussed with officers from Indian Affairs.

### **Northern Affairs and National Resources—National Parks Branch**

An upsurge in the activities concerned with environmental sanitation in national parks amply reflected the rapidly increasing use on the part of the public of the many areas across Canada maintained for the camper and other nature enthusiasts. A water quality survey of the main rivers and streams in Jasper was undertaken during the year. Investigations concerning turbidity removal from river water and the cause of a fish kill at a hatchery, all at Jasper, proved of interest. Time was spent on the consultant's proposals for a sewage disposal and water intake system at Riding Mountain, Manitoba; on a survey for sewage disposal at Fundy, New Brunswick; on plans for new construction at Cape Breton and Prince Edward Island; and on the development of the water supply and sewage disposal systems for the new park at Terra Nova, Newfoundland. The Division reviewed a design for the comfort stations which were subsequently erected at many of the parks. The usual examinations covering all phases of environmental sanitation at the various parks across Canada were carried out during the summer season.

### **Department of Fisheries**

To determine the pollution load contributed by a Department of Fisheries hatchery located on the Little River in New Brunswick, a periodic study was conducted over a six month period. In Newfoundland, the plans for a proposed sewage system for the town of Deer Lake were studied to evaluate the resultant pollution effect both on the Humber River system and the local Fishery. Assistance was provided to the Fish Culture Branch of the Department for a survey of the Sackville River, Nova Scotia.

In co-operation with the Department of Fisheries, close control of the shellfish industry on the east coast was maintained. The program involves the sanitation aspects of producing, harvesting and processing shellfish exported to the United States. In all, 68 examinations of processing and packing plants and 16 surveys of shellfish growing areas were accomplished in the Maritimes.

### **Department of National Defence**

The pressing need for improvement in the bacteriological and chemical quality of the Cornwallis Naval Base water supply posed a problem for the engineers in Nova Scotia. The Division's personnel in Quebec made a total of 30 visits to various R.C.A.F. and Army stations and to Mid-Canada and D.E.W. Line sites. At one Mid-Canada site, a serious water supply problem was studied to determine either the most economical method of treating the brackish well water or the advisability of developing an available surface supply. In addition to the lagoon study previously mentioned, 11 examinations of sewage treatment plants serving D.N.D. stations in Ontario, were made.

### ***Department of Public Works***

The close liaison that now exists between the Architectural Branch of that Department and the Division is clearly indicated in the work distribution reports received from many of the district offices. Surveys, recommendations of treatment procedures, review of plans, advice on location of new buildings, all formed part of the service extended in a co-operative effort. This program concerned Indian Residential Schools, R.C.M.P. Barracks, Custom and Immigration centres along the border, Post Office and other federal buildings in all parts of Canada.

### ***Provincial Co-Operation***

On request, technical assistance was given to the Provincial Department of Health for Prince Edward Island. Plans for sewage systems for various municipalities in the Province and the development of sewage lagoons were items of chief concern referred to the staff for review, discussion and advice.

In British Columbia and Quebec, co-operation in the shellfish control program was maintained with the provincial authorities. For the purpose of certification of producing areas, the Division conducted a number of sanitary surveys and reviewed others initiated by the provincial regulatory agencies.

Personnel from the Manitoba Department of Health and the Division participated in a joint investigation of pollution of Lake Winnipeg. At the request of the Ontario Department of Health, a survey of the water supply for Orient Bay was made.

### ***International Joint Commission***

Meetings of the International Joint Commission's advisory boards concerned with the control of water and air pollution reviewed the data accumulated from current field studies and evaluated the present status of the continuing program. A summary of accomplishments and developments during the year was submitted in progress reports to the Commission. Assistance was also rendered in the assembling of data to be presented in a brochure which will record the progress in pollution abatement in the past ten years.

During the year, a public hearing was held by the Commission at St. Croix, Maine, to which representatives from municipalities, industries and official agencies presented statements covering their interests in the St. Croix River reference. This hearing was of particular interest to the Division in view of its major contribution to the survey work and the preparation of the pollution section of the Engineering Board's report.

### ***Laboratory Services***

An increase in the staff of the Ottawa Laboratory has enabled this service to meet the ever increasing demands directed to it. Studies were initiated to establish economical water treatment for colour and turbidity removal and for corrosion control. The operating efficiency of various sewage treatment plants was evaluated through analyses of composite samples submitted to the laboratory. The required determinations were run on the numerous samples collected by the Division's personnel conducting water quality and pollution surveys of the Oromocto, St. John and Little River in New Brunswick.

These various laboratory projects were carried out at the request of the Department of Fisheries, National Defence and Transport. Chemical analysis of water samples submitted by the Atlantic and Eastern Regions and other government departments formed a large portion of the work load.

The laboratory service in Vancouver continued to meet the requirements for chemical and special analyses in the Prairie and Pacific Regions.

### **Field Work Summary**

In all, 1,251 sanitary surveys of water supplies, ice supplies, (natural and artificial) and shellfish growing areas were conducted. A total of 7,165 water samples and 154 ice samples, were taken for analysis. Some 1,055 examinations were made of railway property including stations, restaurants, dining cars, bunk-houses, mobile work camps, coachyards, yard offices and switchmen's shanties.

A total of 210 examinations were made of sewage and waste treatment plants to check their operation.

Sewage disposal systems were designed and plans prepared by the Division with assistance in the supervision of construction.

During the year, 245 vessels' water systems were examined for compliance with the statutory regulations, including eight new vessels under construction for which plans were submitted to this Division for review.

## **RADIATION PROTECTION DIVISION**

Because of growing public concern with the problem of fallout, the Division, during the past year, increased its activities in preparing reports and other forms of information on this subject. In particular, efforts were made to assess the present situation in terms of the maximum permissible concentration of Strontium 90 in the diet. Additions to the fallout program include an increase in the number of milk sampling stations and the setting up of a new network of stations for sampling air, rainfall and soil. The collection of samples of human bone has continued although no report has yet been published.

The Report of the United Nations Scientific Committee on the Effects of Radiation was published, bringing together in concise form, current knowledge of the effects of radiation. Members and consultants of the Department assisted in the preparation of the report.

Draft Health and Safety Regulations covering atomic energy workers, including users of radio-active isotopes, have been prepared and circulated to the various agencies concerned. These regulations are expected to be ready for enactment by the Atomic Energy Control Board early in the new fiscal year.

The development of experimental and power reactors in this country demands appraisal and control of public health problems associated with such reactors. Additional professional staff has been acquired in the Division for this specific purpose.

With the rapid expansion of present activities in the various aspects of radiation protection and the frequent addition of new activities, extensive planning of establishment and facilities were carried out in the past year. This included preliminary submissions of plans and requirements for a new building to house the various activities and operations of the Division.



Administration of health and medical approval of radioisotope uses including field surveys has continued to increase. The film monitoring service, which introduced a new and improved film holder, acquired an additional 3,000 users during the year. This represents an increase of 50 per cent and brings the total number of individuals using the film service to 9,000.

## **MEDICAL ADVISORY SERVICE**

### **CIVIL AVIATION MEDICINE DIVISION**

The Division which was established in 1946 has continued to function, with increasing responsibilities, as medical adviser to the Government and associated agencies on medical problems related to the health, safety and comfort of aircrew, groundcrew and airline passengers. The changing requirements in air transportation and the rapid expansion of civil aviation have necessitated continued studies in the establishment and application of medical requirements for aviation personnel licensed by the Department of Transport.

The medical aspects of aircraft accident investigation have received more consideration with the establishment of an Aircraft Accident Investigation Division in the Department of Transport.

The medical assessment of aviation personnel licensed by the Department of Transport is an important function of the Division. Approximately 24,000 medical examinations and 2,000 electrocardiograms were completed by 387 appointed examiners. Although the majority were essentially normal, borderline and contentious cases were reviewed by the Regional Medical Consultant Boards.

The need for more research in the field of Civil Aviation Medicine, with the advent of large jet passenger-carrying aircraft became more evident during the year. Although the Division is not responsible for conducting research, close liaison was maintained with the National Research Council, Defence Research Medical Laboratories, the Royal Canadian Air Force Institute of Aviation Medicine and the Department of Transport in reviewing these subjects.

The responsibility for the assessment and taxation of the pre-employment medical examinations for the Department of Transport, Air Services was transferred to the Division. This includes applicants for employment in Air Traffic Control, Telecommunications and Meteorology.

### **CIVIL SERVICE HEALTH DIVISION**

The fiscal year 1958-59, completes 12 years of operation during which the Division has afforded a comprehensive occupational health program to federal government employees. Although no major changes in policy or administrative practices have occurred, the Division has, to an even greater degree, allied itself with and participated in the integration and further development of effective community resources. Especially has this been so in the fields of aging, alcoholism, rehabilitation and mental health. In each of these fields, appropriate members of the divisional staff have given constructive community leadership.

#### **Administration**

Within the Ottawa area, the Health Centre continues to administer advisory, diagnostic and emergency service to some 36,000 government employees; 23

full-time units and three part-time units provide nursing counsellor service to more than 30,000 employees. The unfortunate explosion last October in the Jackson Building area, Ottawa, necessitated the closing of the health unit in this location. Plans are underway for re-establishing health unit services upon re-occupancy of this building.

Outside Ottawa, the Division has continued to provide an advisory service to departments on health and welfare problems and, where feasible, upon request arranges for essential medical examinations and consultations utilizing the facilities of other divisions of the Department, Department of Veterans' Affairs, or on occasion, private physicians.

Early in the fiscal year, the Division was unfortunate in losing the services of its Consultant in Social Services. A capable replacement is being sought by open competition.

### **Health Centre Services**

Table 12 presents a consolidated summary of clinical services performed at the Health Centre. Referrals for investigation and/or examination from the health units receive top priority followed by the conduct of obligatory medical examinations required by statute. The volume of examinations required by statute continues to increase, particularly those undertaken on behalf of foreign service personnel and their dependents prior to and on returning from posting abroad. Also included in this category are examinations for Colombo Plan assignees. The clinical advisory services afforded the Departments of Trade and Commerce and External Affairs increase yearly and this past year, the Department has been fortunate in having available the services of an Immigration Officer posted temporarily to New Delhi, India. Regular reports from this officer, including recommendations and helpful suggestions, have been received concerning the health of personnel and sanitary conditions prevailing in overseas missions in this region, all of which have been extremely valuable to the clinical staff of this Division.

Periodic health examinations for special employee groups at the request of departments constitute the third type of clinical service conducted at the Health Centre. These groups include employees proceeding to isolated areas on summer field work; employees handling radio-active materials; selected groups of senior administrative personnel; personnel engaged in hazardous occupations together with new employees in cases where an estimate of physical fitness for the job is required; and finally, special eye examinations for employees whose work demands a high standard of visual efficiency.

It will be noted that 3,603 immunizations of various types were administered at the Health Centre during the fiscal year, mainly to foreign service personnel and their dependents proceeding abroad or to employees posted to isolated regions.

The consultant services of the psychiatrist and psychologist have been utilized to the full throughout the year. Referrals to the psychiatrist from health units, departmental personnel officers, and the Civil Service Commission numbered 440, an increase of 25 per cent over the previous year. The psychologist interviewed 720 employees, the majority being referred from the health units, the clinical staff of the Health Centre, or from departmental personnel officers. The psychologist has continued to conduct a substantial portion of his interviews in the health units. These health unit visits are useful both in maintaining rapport with the nursing counsellors and in saving the time of civil servants.



Every effort is being made to encourage departments to refer problem cases to the psychologist prior to their being returned to the Civil Service Commission. By so doing, placement may often be found within the department. Where this is not possible, guidance may be furnished to the Civil Service Commission with respect to more suitable reassignments. Both the psychologist and psychiatrist have played key roles in advising the Departments of Trade and Commerce and External Affairs on the fitness or otherwise of foreign service personnel for overseas posting. Both have also made a significant contribution to the inter-departmental committee on personnel counselling, one of the primary purposes of which is to advise personnel officers on the early detection of aberrant behaviour among civil servants. Such early detection with proper referral will frequently prevent the onset of major emotional disturbances.

The Certificate Review Section has continued to function as an integral part of the Health Centre. Medical officers on a monthly rotating basis continue to give necessary medical direction to this phase of the work. During the year, 89,164 certificates of disability for duty and 9,422 physical examination record forms were reviewed and processed. Arrangements were made for some 515 medical examinations outside Ottawa utilizing the previously cited resources. In the main, medical examinations were arranged for Colombo Plan assignees, extension of employment beyond the age of 65, confirmatory examinations in connection with retirement from the service on medical grounds, or examination for assessment of physical fitness for job suitability at departmental request. This year, the Unemployment Insurance Commission instituted a program whereby all senior executive personnel were offered voluntary medical examinations on a biennial basis. Many of these examinations were for personnel in district offices outside Ottawa. The annual statistical report on *Illness in the Civil Service*, compiled from sick leave certificates by the Public Health Section of the Bureau of Statistics, is being published for the first time on a calendar rather than a fiscal year basis and sickness absenteeism is calculated for both calendar and working days.

Table 13 presents a summary of retirements from the service on medical grounds according to disability for the year 1958-59.

### **Health Unit Services**

Table 14 summarizes by months the activities of the 23 full-time and three part-time health units in operation during the fiscal year. Early in the year, amalgamation of the three units serving the Department of National Defence employees at Cartier Square was completed and one large unit located in "C" Building now covers this entire force. With this change it was found expedient to operate the health unit in the Metcalfe Building on a full-time basis. Later in the year, a new unit was opened with the occupancy of the new Trade and Commerce Building. Plans are projected for the early opening of two additional units—a two-nurse unit to serve the new group of buildings being completed for the Department of Mines and Technical Surveys on Booth Street, and a one-nurse unit for the Neatby Memorial (Science Survey) Building at the Experimental Farm. By careful planning, it is proposed to staff these new units from our existing establishment. Plans have been submitted for health units to be located in the new buildings being constructed for the Departments of Agriculture, Post Office and Public Works.

Health teaching, counselling and first aid have been provided to almost 31,000 civil servants by the above health unit facilities. No increase in nursing-counsellor staff has occurred in spite of the continuing trend towards decentralization of government buildings into outlying areas. Several of the newer health units have not yet been developed to their full capacity and the total force covered also includes a number of isolated groups receiving only emergency nursing service. The difficulty in obtaining a true index of health unit participation is complicated by the fact that many employee groups are in a state of flux and will remain so for a number of years until new construction is completed and permanently occupied on a departmental basis. Thus the present participation index figure of approximately 50 monthly visits per 100 personnel supervised is a "blanket" figure including groups ranging from those receiving nursing-counsellor service to the fullest extent, to those considerable numbers receiving only emergency services.

One minor change with respect to the qualifications for all new nursing-counsellor personnel is noteworthy. Experience has shown that personally suitable nurses with postgraduate training and experience in public health nursing are best equipped to meet the opportunities for service in this setting. Accordingly, the Civil Service Commission approved a recommendation making a university certificate in public health nursing a requirement for all nursing-counsellor grades.

### **Staff Education**

In-service training and staff conferences this year took the form of a research project, or time study, under the joint direction of the Chief Supervisor of Nursing Counsellors and one of the Senior Nursing Counsellors from this Division together with consultant staff of the departmental division of Research and Statistics. The basic purpose of this study was to evaluate the function of the nursing-counsellor service. It was felt that after 12 years, such a study with all nursing counsellors participating might well provide answers to such questions as—What nurse/employee ratio is the optimum?—Are we making good use of nursing time in all locations?—Have some procedures outlived their usefulness?—What new approaches, if any, should be adopted?

The survey took the form of a "Work Sampling Study" carried out by each nurse for 15 one-half hour periods over a 2-week span. Planning and conducting the survey has necessitated regular staff education conferences and has stimulated much interest and enthusiasm among the nurses. The direction and assistance received from the consultant staff of the Research and Statistics Division has been invaluable in the conduct of this survey.

### **Special Activities**

Under the direction of the psychiatrist, the Division pursued with vigour, a further development of the program to combat alcoholism in the federal civil service. Key representatives from all departments conferred in February to report on the progress of this program and it was gratifying to note the interest and increasing awareness on the part of all concerned toward this serious problem.

Throughout the development of this service, the nursing counsellor's function as a health teacher and health counsellor has been stressed. As counselling services receive increased attention, both in the Civil Service Commission and in various government departments, the role of the nursing counsellor as a professional ally in this field is brought more sharply into focus. During the past year, several of our senior nursing personnel have participated in conferences planned for key government personnel on employee relations, counselling and alcoholism.

The Division has continued to lend its facilities for field training to undergraduate medical students from the University of Ottawa and to postgraduate students from the Schools of Nursing at the University of Ottawa and McGill.

The nursing-counsellor staff during the year have given freely of their time to professional meetings and activities. Executive positions in the local Nursing Chapter, the local Welfare Council, the Professional Institute and the Canadian Nurses' Association are all held by responsible members of our staff. In addition, several carried heavy responsibility in the arrangements and organization of the Golden Anniversary Meeting of the Canadian Nurses' Association held in Ottawa in June, 1958. One member of the supervisory staff is currently a member of the Association's Executive Committee. While such professional contacts enrich the nursing-counsellor service in many ways, they also indicate the respect in which this service is held by the nursing profession and related groups.

Planning for the extension of this Division's services and activities to government employees outside Ottawa has been continued. This year, a special study of the basic health service needs for large employee groups in major cities across Canada was undertaken in the event that the Division should be called upon to provide such additional services.

TABLE 12

(Civil Service Health Division)  
HEALTH CENTRE STATISTICS  
Fiscal Year 1958-59

Number of Visits		
Total		7,413
First visit	3,172	
Repeat visit	4,241	
Visits by Sex		
Total		7,413
Male	4,858	
Female	2,555	
Analysis of Visits		
Physical examinations		2,664
Pre-employment, periodic, P.S.S.A.	454	
Foreign service, isolated duty, postings, etc.	532	
Referrals—voluntary, department, health unit, etc.	1,678	
Consultations, interviews, etc.		4,600
Psychological	720	
Psychiatric	437	
Special, eye, x-ray, immunization	3,443	
Accidents		149
Industrial	27	
Non-industrial	122	
Immunizations		
Total number of employees immunized		846
Total immunization		3,603
Smallpox	925	
T.A.B.T.	1,060	
T.A.B.	467	
Cholera	319	
Typhus	123	
Yellow fever	496	
Other	213	
Disposal		
Total		7,413
Returned to work	7,348	
Sent home	65	
Referred to Family Physicians		116
Total Laboratory Procedures		3,823
X-ray		
Total		4,029
Chest	2,021	
Chest (photoröntgen unit)	1,571	
Other	437	



TABLE 13

(Civil Service Health Division)

## RETIREMENTS FROM SERVICE—ACCORDING TO DISABILITY

Fiscal Year 1958-59

Male—146, Female—44, Total—190

Cause of Disability	Age Groups					
	Under 40	40 to 44	45 to 49	50 to 54	55 to 59	Total
Infective and parasitic .....	0	0	0	0	2	2
Neoplasms .....	0	0	4	4	10	18
Allergic, endocrine metabolic, nutritional.	3	1	2	4	2	12
Blood and blood forming .....	0	0	1	0	1	2
Mental psychoneurotic personality .....	2	6	2	4	14	28
Nervous systems and sense organs .....	3	4	3	3	13	26
Circulatory .....	3	1	6	8	33	51
Respiratory .....	0	1	3	3	7	14
Digestive .....	0	0	3	2	2	7
Genito-urinary .....	0	0	1	0	2	3
Pregnancy, childbirth .....	0	0	0	0	0	0
Skin and cellular .....	0	0	0	0	1	1
Bones and organs of movement .....	3	1	1	3	7	15
Congenital malformation .....	0	0	0	0	0	0
Symptoms and ill defined .....	1	0	2	2	4	9
Accidents and results of old injuries .....	1	0	1	0	0	2
Total .....	16	14	29	33	98	190





## QUARANTINE, IMMIGRATION MEDICAL AND SICK MARINERS SERVICES

### *Introduction*

Under Quarantine, Immigration Medical and Sick Mariners Services are grouped a number of services dealing with international traffic. This group administers the Quarantine Act and Regulations, the Leprosy Act, Part V of the Canada Shipping Act and, by the authority of certain other statutes and orders in council, has responsibility for the medical examination and treatment of immigrants and the periodic medical examination of seafarers. Medical facilities are maintained at major sea and air ports in Canada and at 21 centres overseas. Medical arrangements are in effect at many other centres in Canada and in most foreign countries.

The facilities across Canada provide for this and other departments a wide variety of medical and public health services including the medical examination of harbour and river pilots, the medical examination and immunization of government employees appointed to serve in remote areas, and the medical examination of civil servants on request.

### *Quarantine Service*

The Quarantine Service administers the Quarantine Act and Regulations and the Leprosy Act. The inspection, immunization and vector control measures applied under the authority of the Quarantine Regulations are in accordance with international standards established by the World Health Organization's International Sanitary Regulations. The measures are designed to reduce the hazard of major infectious diseases being introduced from abroad. The major quarantinable diseases are: smallpox, plague, cholera, typhus, louse-borne relapsing fever and yellow fever.

### *Smallpox*

Immunity acquired as a result of vaccination is Canada's only defence against the introduction of smallpox. All persons entering from abroad are required to show evidence of having been vaccinated within three years. This requirement does not apply to persons coming from the United States including Alaska, Greenland, Iceland, St. Pierre, Miquelon, Bermuda, Cuba, Jamaica, The Bahamas, The Virgin Islands, Puerto Rico, Panama Canal Zone, or the Hawaiian Islands. During the year, approximately 1,300,000 persons with valid vaccination certificates entered Canada. Three hundred and five persons (.0234 per cent) refused vaccination and were placed under the surveillance of local medical officers of health during the incubation period of the disease. During the year, there were serious outbreaks of smallpox in parts of Asia and epidemics in many other countries from which travellers arrived in Canada. There were several minor outbreaks in Europe, the most serious being centred around Heidelberg. Epidemiological information is received daily from the World Health Organization and from Canadian medical officers stationed abroad.

### **Plague**

Preventive measures against the introduction of plague are directed toward the vectors of this disease. These vectors are rats and rat fleas and every vessel arriving from a foreign port subject to quarantine is inspected routinely for rodents and unless found rat-free, must undergo fumigation. Special measures are applied to vessels on arrival from plague infected ports. Rat proofing of new vessels is encouraged and in recent years, this has done much to reduce the number of fumigations. When a vessel is found on inspection to be free from rats, it is given an exemption certificate which is valid for six months. Such certificates are recognized by all countries which are members of the World Health Organization.

### **Typhus and Relapsing Fever**

All passengers coming from areas where typhus or relapsing fever exists are carefully checked for lice, which are the vectors of these diseases. Equipment for the rapid delousing of persons exposed or under suspicion is available at the major sea and air ports.

### **Cholera**

The chlorination of water, pasteurization of milk, safe disposal of sewage and the hygienic handling of foodstuffs have reduced the hazard of cholera in Canada to the point where special preventive measures are no longer necessary except the vaccination of persons entering an infected area. Cholera vaccine is available in Canada and inoculation may be obtained from most medical practitioners.

### **Yellow Fever**

Canada is not a yellow fever receptive area and climatic conditions are unsuitable for the propagation of the mosquito vectors of this disease, except during the summer. Only one outbreak of the disease has occurred in Canada. For the protection of persons planning to enter infected areas, active immunization against yellow fever is available at 13 centres located strategically across Canada. All of these centres have facilities for storing and administering yellow fever vaccine according to World Health Organization standards and all have authority to issue valid international certificates of inoculation. An additional centre is maintained in Europe at No. 1 Air Division. During the year, 5,093 inoculations were carried out. Due to the difficulties encountered in preserving yellow fever vaccine in a viable condition, the vaccine cannot be released to medical practitioners and the World Health Organization will only recognize inoculations performed at the established centres.

During the year, 3,772 vessels and 17,003 aircraft, carrying a total of 1,302,003 persons, were inspected at organized quarantine stations and airports. Of this number, 931,974 were passengers, 369,964 were crew members and 65 were stowaways and other miscellaneous persons.

At unorganized ports, local Customs Officers, acting in the capacity of Quarantine Officers, reported the entry of an additional 702 vessels. Tables relating to inspections carried out during the year follow.



TABLE 16  
(Quarantine Service)

## INSPECTION OF AIRCRAFT SUBJECT TO QUARANTINE

Fiscal Year 1958-59

Airport	Number of Aircraft	Number of Crew	Number of Passengers	Total Persons
Dorval, Que.....	3,231	27,492	139,160*	166,652
Edmonton, Alta.....	95	924	5,616	6,540
Frobisher, N. W.T.....	85	692	3,615	4,307
Gander, Nfld.....	8,849	70,324	398,197	468,521
Goose Bay, Nfld.....	1,102	8,831	49,425	58,256
Halifax, N.S.....	4	27	264	291
London, Ont.....	3	23	173	196
Malton, Ont.....	614	3,626	26,365	29,991
Moncton, N.B.....	70	609	3,724	4,333
Ottawa, Ont.....	10	103	213	316
Quebec, Que.....	4	26	125	151
Sea Island, B.C.....	2,239	11,317	92,783	104,100
Stephenville, Nfld.....	34	281	1,322	1,603
Sydney, N.S.....	227	1,983	11,431	13,414
Winnipeg, Man.....	436	4,237	17,669	21,906
Totals.....	17,003	130,495	750,082	880,577

\* This figure includes 2,133 landed immigrants via Domestic.



TABLE 17  
(Quarantine Service)  
CONTROL OF RATS ON VESSELS  
1958-59

Port	Vessels inspected, fumigated and deratting certificates issued	Vessels inspected and exemption certificates issued	Vessels inspected and remanded or time extended	Vessels inspected and certificates endorsed	Total vessels inspected	Rodents recovered	
						Rats	Mice
Charlottetown, P.E.I.	1				1		
Halifax, N.S.	3	38	75		116		
Sydney, N.S.		8			8		
Saint John, N.B.	2	25	4		31		
Baie Comeau, P.Q.		2			2		
Montreal, P.Q.	2	80	9		91	2	
Port Alfred, P.Q.		35			35		
Quebec, P.Q.		10			10		
Seven Islands, P.Q.		3			3		
Three Rivers, P.Q.		1			1		
Port Alberni, B.C.	1	1			2	4	
Vancouver, B.C.	9	65	21	220	315	24	10
Victoria, B.C.		49	3	251	303		
Totals	18	317	112	471	918	30	10

## Leprosy

The first case of leprosy recorded in Canada was in the year 1815 and the theory generally accepted is that it was introduced by an early settler arriving from a leprous area.

The first treatment facilities, located at Sheldrake Island, New Brunswick, were provided by the Government of New Brunswick in 1844. In 1849, there were 20 cases and these were transferred to Tracadie and housed in buildings especially erected for their care. In 1869, new improved quarters were erected and in 1880, the Federal Government took over these facilities. The building was burned in 1943 and the Sisterhood of L'Hotel Dieu de St. Joseph replaced it with a modern, fireproof hospital to which was attached a special wing for the treatment of lepers. The Federal Government contributed to the cost of this wing and paid for the maintenance of leprosy patients on a per diem basis. The accommodation consists of 12 well furnished private rooms, comfortable living room facilities and a woodworking shop.

At the end of the fiscal year, eight persons were under active treatment at Tracadie and 13 were under the care of their family physicians who administer treatment under the surveillance of the local medical officers of health. Statistics for 1958-59 follow.

TABLE 18  
ANNUAL CENSUS—LEPER PATIENTS  
1958-59  
(Tracadie, N.B.)

### Inpatients:

Inpatients as of April 1st, 1958 .....	7
Admitted during the year .....	4
Died during the year .....	0
Discharged during the year .....	3
Remaining in hospital as of March 31st, 1959 .....	8

### Outpatients:

Continuing treatment at home under medical supervision .....	13
Total known cases in Canada .....	21

## Immigration Medical Service

The Immigration Medical Service carries out or directs the preliminary medical examination of immigrants abroad, the final medical examination of immigrants, visitors and persons in transit following arrival in Canada. In addition, it conducts the observation, clinical investigation and treatment of those who are found to be ill on arrival and the treatment of indigent immigrants who take ill following arrival while enroute to destination in Canada or while being accommodated by the Department of Citizenship and Immigration awaiting placement in employment. In certain circumstances, the Division undertakes the treatment of others considered the responsibility of the Department of Citizenship and Immigration. Medical, diagnostic and treatment facilities are also provided for all persons accommodated or detained in Immigration Halls across Canada.

To carry out this responsibility, the Immigration Medical Service is divided into four main sections;

*A Headquarters Section* which is responsible for the overall operation of the Immigration Medical Service and for liaison with and the transmission of advice to Provincial Departments of Health concerning persons requiring special supervision and treatment to protect the public health.

*An Overseas Section* which is responsible for the preliminary medical and x-ray examination, assessment and classification of proposed emigrants in the British Isles and Europe.

*A Canadian Section* which is responsible for the final examination, investigation and treatment at Canadian seaports and airports and for all treatment arrangements in Canada during the early months of residence.

*A Prescreening Section* which is responsible for preliminary examinations performed by selected physicians located in South America, Asia, Africa, Australia and other foreign countries in North America.

The Head Office of the European Section is located in London, England. Offices for the examination of migrants to Canada are located at London, Liverpool, Glasgow, Bristol, Leeds, Belfast, Dublin, Athens, Brussels, Copenhagen, Vienna, Paris, Rome, The Hague, Cologne, Stuttgart, Berlin, Hamburg, Munich, Helsinki and Berne, the latter being opened during the year. All these offices are staffed by Canadian medical officers with the exception of Dublin. Examinations are conducted free of charge and x-rays are also provided free at London, Liverpool, Leeds, Glasgow, Belfast, Bristol, Dublin, Paris and The Hague. At other centres, the migrant is required to pay an approved fee to the clinic appointed. Examinations at other smaller centres are carried out by specially appointed physicians called roster doctors and are located at various centres in the British Isles, Malta, Switzerland, Portugal, Norway, Sweden, Finland and France. Roster doctors charge a fee for each examination and their work is closely supervised by one of the full-time officers which has jurisdiction over the region. Roster doctors are also employed in Asia at Hong Kong, New Delhi, Bombay, Calcutta and Karachi. During the year, a Canadian medical officer was posted to New Delhi for the purpose of supervising and training roster doctors.

Total new examinations in the United Kingdom during the year was 24,217, a decrease of 50,312 from the 1957-58 total. Re-examinations numbered 5,786, a decrease of 4,610 from the previous year. On the Continent of Europe, initial examinations numbered 77,996, a decrease of 55,491 from 1957-58, while the total re-examinations was 16,550, a decrease of 3,708 from last year.

The overall total of new examinations was 102,213, a decrease of 105,803 from 208,016 in 1957-58 while total re-examinations were down to 22,336 from the 1957-58 figure of 31,470. Part of the decrease on the Continent of Europe is due to the fall-off in the number of Hungarian refugee examinations. However, the pattern shows that in Northern Europe, the decrease was approximately 50 per cent whereas in Greece, the decrease was 25 per cent. Italy showed an increase of approximately 12 per cent. The number of prospective migrants medically prescreened at Headquarters, however, continued to increase and during the year reached an all-time high of 30,151.

During the year, a new office was opened in Berne, Switzerland, and new office premises occupied in Belfast and Athens. Older x-ray units, displaced by more modern equipment in London and Glasgow, were installed in the Bristol and Belfast offices and now afford x-ray facilities there.

Travelling teams of Canadian medical officers worked outside their regular offices at various times during the year and carried out examinations in Spain, Metz, Malta and Trieste. At the close of the fiscal year, 56 medical officers were employed in offices in the United Kingdom and continental Europe, as well as a locally engaged clerical staff numbering 96.

Medical facilities for the examination and treatment of passengers arriving by sea are available at St. John's, Nfld., Sydney and Halifax, N.S., Saint John, N.B., Port Alfred, Rimouski, Montreal and Quebec, P.Q., and Vancouver and Victoria, B.C. Medical facilities for the examination and treatment of passengers arriving by air are located at airports at Gander and Stephenville, Nfld., Sydney, N.S., Moncton, N.B., Dorval, P.Q., Ottawa, Toronto, London and Windsor, Ont., Winnipeg, Man., Edmonton, Alta., and Vancouver, B.C. Sick bays for the treatment of immigrants are located in Immigration Buildings at Halifax, N.S., Saint John, N.B., and Quebec, P.Q.

Statistics for this Service follow.

TABLE 19  
(Immigration Medical Service)  
SUMMARY OF ACTIVITIES  
Fiscal Year 1958-59

CANADA:

Immigrants medically inspected on arrival at ocean and air-ports .....	120,563
Non-immigrants medically inspected on arrival at ocean and air ports .....	46,988
Certified as "prohibited" under Immigration Act, Sec. 5, (a) (b) and (i) ....	390
Certified as physically defective, sec. 5 (c) .....	3,218
OVERSEAS—(British Isles, Continent of Europe and Orient):	
Prospective emigrants medically examined .....	106,587
Certified as "prohibited" under Immigration Act, Sec. 5, (a) (b) and (j) ....	2,418
Certified as physically defective, Sec. 5 (c) .....	9,490
Re-examinations .....	23,121
<i>British Isles:</i>	
Prospective emigrants medically examined .....	24,217
<i>Continent of Europe:</i>	
Prospective emigrants medically examined .....	77,996
<i>Orient:</i>	
Prospective emigrants medically examined .....	4,374

ALL OTHER COUNTRIES:

Medically prescreened at Ottawa .....	30,151
Certified as "prohibited" under Immigration Act, Sec. 5, (a) and (b) .....	412
Certified as physically defective, Sec. 5 (c) .....	4,753
Re-examinations .....	1,470

TABLE 20

## IMMIGRATION MEDICAL EXAMINATIONS IN CANADA

1958-59

Location	Immigrants	Non-Immigrants
Gander, Nfld.....	450	832
St. John's, Nfld.....	320	266
Halifax, N.S.....	30,429	1,128
Sydney, N.S.....	36	11
Saint John, N.B.....	688	199
Montreal, P.Q.....	2,137	724
Quebec, P.Q.....	35,121	15,757
Dorval, P.Q.....	25,441	15,970
Malton Airport, Ont.....	4,729	4,111
Toronto, Ont.....	1,686	2
Fort Erie and Out-ports, Ont.....	2,018	780
Niagara Falls and Out-ports, Ont.....	1,332	557
Vancouver, B.C.....	2,296	532
Vancouver Airport, B.C.....	3,101	3,761
Victoria, B.C.....	197	113
Others.....	10,582	2,245
Totals.....	120,563	46,988



TABLE 21  
DETAILS OF EXAMINATIONS  
Examinations Overseas

	Examinations	Re-examinations
By Canadian Medical Officers in British Isles.....	21,710	5,092
By Roster Doctors in British Isles.....	2,507	694
By Canadian Medical Officers on the Continent.....	74,937	15,590
By Roster Doctors on the Continent.....	3,059	960
By Roster Doctors in the Orient.....	4,374	785
Total—1958-59.....	106,587	23,121
Total—1957-58.....	211,982	31,623
<b>BRITISH ISLES:</b>		
<i>By Canadian Medical Officers</i>		
Belfast.....	1,089	432
Bristol.....	1,136	202
Glasgow.....	4,136	1,137
Leeds.....	1,972	527
Liverpool.....	2,854	813
London.....	10,523	1,981
<i>By Roster Doctors</i>		
Belfast Area.....	14	5
Bristol Area.....	204	38
Dublin Area.....	691	274
Eire.....	139	39
Glasgow Area.....	492	148
Leeds Area.....	321	42
Liverpool Area.....	141	44
London Area.....	505	104
<b>CONTINENT:</b>		
<i>By Canadian Medical Officers</i>		
Athens.....	5,464	743
Berlin.....	1,871	475
Berne.....	393	28
Brussels.....	2,018	922
Cologne.....	6,721	1,892
Copenhagen.....	1,598	381
Hamburg.....	2,853	833
Helsinki.....	1,115	287
Malta.....	312	.....
Munich.....	1,500	474
Paris.....	3,215	887
Rome.....	34,460	5,339
Spain.....	1	34
Stuttgart.....	2,934	861
The Hague.....	6,320	993
Vienna.....	4,162	1,441
<i>By Roster Doctors</i>		
Finland.....	.....	133
France.....	13	.....
Malta.....	264	156
Norway.....	494	114
Portugal.....	1,287	385
Sweden.....	471	81
Switzerland.....	530	91
<b>ORIENT:</b>		
<i>By Roster Doctors</i>		
Hong Kong.....	3,702	662
India.....	544	123
Pakistan.....	128	.....
Total.....	106,587	23,121

TABLE 22  
CASES PRE-SCREENED AT OTTAWA SHOWING COUNTRY OF ORIGIN  
Fiscal Year 1958-59

Country	Examined	Passed	Furthered	Certified—Section 5			Total Certified
				(a)	(b)	(c)	
Aden.....	2	2					
Algeria.....	77	71	1			5	5
Argentina.....	602	474	17		17	94	111
Australia.....	1,248	1,036	41	3	2	166	171
Azores.....	2,253	2,077	24	2	9	141	152
Bahrein Island.....	2	2					
Bermuda.....	34	28	1			5	5
Bolivia.....	3	2				1	1
Brazil.....	341	275	17		9	40	49
British Guiana.....	156	116	19		4	17	21
British West Indies.....	1,570	1,350	86	4	6	124	134
Bulgaria.....	16	10				6	6
Burma.....	37	29	5			3	3
Canada.....	7,856	5,911	635	15	79	1,216	1,310
Central Africa.....	95	82	4			9	9
Central America.....	28	24	2			2	2
Ceylon.....	40	38	1			1	1
Chile.....	75	68				7	7
China.....	14	5			4	5	9
Colombia.....	32	29				3	3
Cyprus.....	41	29			1	11	12
Czechoslovakia.....	59	43	2	1	2	11	14
Dutch Guiana.....	1	1					
Dutch West Indies.....	65	56	2			7	7
Ecuador.....	20	14	4			2	2
Egypt.....	65	53	1			11	11
Fiji Islands.....	14	10				4	4
Hawaii.....	3	3					
Hungary.....	1,239	773	37		23	406	429
Iceland.....	31	21	5			5	5
Indo-China.....	41	30	8		1	2	3
Indonesia.....	61	41	9		3	8	11
Iran.....	6	5			1		1
Israel.....	617	491	13	3	8	102	113
Japan.....	345	268	8	1	8	60	69
Jordan.....	1	1					
Korea.....	10	5				5	5
Kuwait.....	5	5					
Lebanon.....	397	342	2		8	45	53
Libya.....	2	2					
Madeira.....	118	108	1		2	7	9
Malaya.....	64	57				7	7
Malta.....	1	1					
Mauritius.....	2	2					
Mexico.....	54	46	1			7	7
Morocco.....	291	257	5		2	27	29
New Zealand.....	359	300	5	2	1	51	54
Paraguay.....	363	295	13		6	49	55
Peru.....	30	28				2	2
Philippines.....	37	28	2		1	6	7
Poland.....	4,206	3,013	129	8	86	970	1,064
Roumania.....	293	183	9		1	100	101
Russia.....	307	147	23	1	7	129	137
Society Islands.....	1	1					
South Africa.....	251	226	1		1	23	24
Spain.....	334	261	15		15	43	58
Tunisia.....	118	98	5		1	14	15
Turkey.....	282	251	8		4	19	23
Uruguay.....	52	37	4		2	9	11
United States.....	3,916	3,062	244	15	14	581	610
Venezuela.....	466	399	25		9	33	42
West Indies Group.....	80	69	1			10	10
Yugoslavia.....	1,022	825	35		20	142	162
Total.....	30,151	23,516	1,470	55	357	4,753	5,165

**TABLE 23**  
(Immigration Medical Service)  
**CERTIFICATIONS UNDER SECTION 5 OF THE IMMIGRATION ACT**  
Fiscal Year 1958-59

	Canada Ocean and Air ports	British Isles		Continent of Europe		Orient Examined by Roster Drs.	Canada Pre-screened at Ottawa	Total
		Examined by Can. M.O.'s.	Examined by Roster Drs.	Examined by Can. M.O.'s.	Examined by Roster Drs.			
Certified under:								
SS (a) Mental Diseases and Defects.....	46	91	5	227	1	5	55	430
SS (b) Chronic Infectious Diseases.....	343	205	43	1,220	40	580	357	2,788
SS (c) Physical Defects.....	3,218	2,700	384	5,688	289	429	4,753	17,461
SS (i) Chronic Alcoholism.....	1	.....	.....	.....	.....	.....	.....	1
SS (j) Drug Addiction.....	.....	.....	.....	.....	.....	1	.....	1
Total.....	3,608	2,996	432	7,135	330	1,015	5,165	20,681

## **SICK MARINERS SERVICE**

The Sick Mariners Service has the distinction of being Canada's first prepaid medical surgical hospital treatment plan. The Federal Government, by agreement with the provinces, took over responsibility for operating such a service at the time of Confederation. The plan operated provincially prior to this, having been devised to prevent foreign seamen arriving at Canadian ports from becoming public charges when in need of medical or surgical treatment.

The Service operates under the authority of Part V of the Canada Shipping Act and provides, for a period of up to one year, free medical, surgical and hospital services for all conditions with the exception of permanent insanity. These benefits are available to all crew members of vessels for which sick mariners dues have been paid for the current calendar year.

Sick mariners dues are collected on the basis of registered tonnage and are payable to the Collector of Customs at ports in Newfoundland, Nova Scotia, New Brunswick, Prince Edward Island, Quebec, British Columbia, and those ports in Ontario and Manitoba bordering on James Bay and Hudson Bay.

It is not compulsory for vessels used exclusively in fishing operations to pay sick mariners dues but the dues may be paid providing the vessel is registered in Canada and the first payment is made prior to the first fishing voyage of the calendar year.

Sick Mariners Clinics staffed by medical officers of the Department are in operation at Halifax and Sydney, N.S., Saint John, N.B., Quebec and Montreal, P.Q., and Vancouver, B.C. At Sydney, Indians of the various reserves of the Eskasoni Indian Agency are also treated by the staff of the Sick Mariners Service.

Port physicians on a part-time salary basis provide treatment at St. John's, Nfld., Digby, Liverpool, Lunenburg, North Sydney and Pictou, N.S., Shippegan and Tracadie, N.B., Gaspe and Port Alfred, P.Q., and Port Alberni and Powell River, B.C. At various other ports, treatment is provided by designated physicians on a fee-for-service basis.

Effective January 1st, 1959, hospitalization of crew members, resident in any of the provinces which have completed hospital insurance agreements with the Federal Government, became the responsibility of the Provincial Hospital Insurance Authority concerned. Hospitalization of foreign seamen and seamen resident in provinces without an insurance plan continue to be covered in the same manner as before.

The total number of hospitals in Canada authorized or appointed to treat sick mariners during the year was 157 and the number of port physicians, consultants and specialists providing treatment service was 751.

Total dues collected during the calendar year 1958 amounted to \$357,132.09 and the total cost of providing treatment for crews of vessels paying these dues and to the crews of vessels exempt from the payment of dues under Order in Council 1955-4/483, amounted to \$1,020,212.60. A total of 31,943 seamen received treatment for 53,238 diseases or injuries. Of this number, 2,462 seamen were admitted to hospitals. The total number of crew members on vessels paying sick mariners dues was 125,976. Pulmonary tuberculosis cases discovered and treated amounted to 25 for an unadjusted rate of 20 per 100,000 persons. Tables relating to this Service follow.

TABLE 24  
(Sick Mariners Service)

## STATEMENT OF DISEASES AND INJURIES TREATED

During the Fiscal Year 1958-59

	<i>Cases Treated</i>
Tuberculosis of respiratory system .....	25
Syphilis and its sequelae .....	162
Gonococcal infection .....	3,486
Other infective diseases commonly arising in intestinal tract .....	{ 121
Certain diseases common among children .....	
Scarlet fever .....	3
Measles .....	30
Mumps .....	35
All other diseases classified as infective and parasitic .....	190
Malignant neoplasm, including neoplasms of lymphatic and haematopoietic tissues .....	91
Benign neoplasms and neoplasms of unspecified nature .....	448
Allergic disorders .....	1,091
Diseases of thyroid gland .....	458
Diabetes mellitus .....	169
Avitaminosis and other deficiency states .....	95
Anaemias .....	2,992
Psychoneuroses and psychoses .....	1,509
Vascular lesions affecting central nervous system .....	179
Diseases of the eye .....	795
Diseases of the ear and mastoid process .....	1,058
Rheumatic fever .....	98
Chronic rheumatic heart disease .....	100
Arteriosclerotic and degenerative heart disease .....	701
Hypertensive disease .....	898
Diseases of veins .....	2,101
Acute nasopharyngitis (Common cold) .....	5,318
Acute pharyngitis and tonsillitis and hypertrophy of tonsils and adenoids .....	1,107
Influenza .....	5,381
Pneumonia .....	610
Bronchitis .....	2,153
All other respiratory diseases .....	2,101
Diseases of stomach and duodenum, except cancer .....	2,972
Appendicitis .....	310
Hernia of abdominal cavity .....	995
Diarrhoea and enteritis .....	605
Diseases of gallbladder and bile ducts .....	515
Other diseases of digestive system .....	4,221
Nephritis and nephrosis .....	498
Diseases of genital organs (male) .....	1,110
Diseases of genital organs (female) .....	5
Boil, abscess, cellulitis and other skin infections .....	1,471
Other diseases of the skin .....	1,200
Arthritis and rheumatism, except rheumatic fever .....	877
Diseases of bones and other organs of movement .....	79
Other specified and ill-defined diseases .....	121
Accidents, poisonings, and violence (external cause) .....	952
Occupational accidents and occupational poisonings .....	3,350
Accidents and poisoning not specified as occupational .....	452
	<hr/> 53,238 <hr/>



TABLE 25  
(Sick Mariners Service)

REVENUE, EXPENDITURE AND DEFICIT CLASSIFIED ACCORDING  
TO TYPE OF VESSEL

Calendar Year 1958

Classification of Vessel	Revenue	Expenditure	Deficit	Deficit Expressed as Percentage of Revenue
Foreign-going.....	341,289.17	437,233.87	95,944.70	28
Coasting.....	2,774.18	22,422.25	19,648.07	708
Fishing.....	13,068.74	554,950.81	541,882.07	4,146
Additional expenditure not classified as to type of vessel.....		5,605.67	5,605.67	.....
Total.....	\$357,132.09	\$1,020,212.60	\$663,080.51	185%

Government

(not paying S.M. Dues)

Treatment provided under  
authority of P.C. 1955-4/483

T.B. 484135.....\$90,323.62

## NARCOTIC CONTROL DIVISION

### GENERAL

As has been the Division's experience in recent years, the maintenance of narcotic supplies in Canada for medical needs presented no problem. Licensed dealers kept the Division advised of their requirements, and splendid co-operation by international authorities and suppliers in other countries made the supply situation a matter of routine.

### DOMESTIC TRADE

During the calendar year, 152 firms were licensed to deal in narcotics. Of these, 62 acted as distributors while 90 firms were licensed to manufacture and distribute specific narcotic products. All firms so licensed were carefully investigated in respect to both their pharmaceutical and business standards to ensure that narcotic stocks held by them were properly handled and safeguarded.

In the same period, 147 licences to import and 53 export licences were issued, the former covering Canadian narcotic requirements for the year and the latter being largely concerned with innocuous narcotic products shipped mainly to the West Indies.

A slight increase in narcotic consumption has been noted. This is offset by population growth and local conditions. Moreover, the Division is currently faced with requests for new synthetic narcotics which are being developed. It is expected that some of these drugs will, to a noticeable degree, replace related Opium derivatives. Information in respect to importation and estimated consumption of narcotics may be found on pages 95 and 96.

Seven pharmacist-auditors employed by the Division visited 4,248 retail drug stores, hospitals and narcotic dealers' premises to ensure that narcotic regulations were being observed.

### SUPERVISION MAINTAINED OVER RETAIL PHARMACIES

Considerable correspondence was carried on with pharmacists regarding discrepancies in their narcotic stock and records, as uncovered by our inspecting auditors.

Slightly over 1,000 reports of narcotic sales were received monthly from retail pharmacies. These were subjected to close scrutiny in order to detect any irregularities which might indicate misuse or abuse of narcotic medication. A particularly close watch was maintained over some of the newer synthetic narcotic drugs which have appeared on the market in order to prevent any such material gaining favour with the criminal addict population.

### ADDICTION

The annual count of narcotic addicts indicates that in the year 1958, Canada's addict population was 3,412 or about one addict per each 5,000 persons. These addicts, for statistical purposes, were divided into three classes: criminal,

2,958; medical, 320; and professional, 134. There has been no marked trend, either toward increase or decrease, in the overall number of addicts in Canada over the past five years, the figures being:

1954 .....	3,212	1957 ....	3,315
1955 .....	3,425	1958 .....	3,412
1956 .....	3,241		

### **LIAISON WITH MEDICAL, PHARMACEUTICAL AND NURSING PROFESSIONS**

The Division continued to maintain close liaison, by correspondence and through personal visits, with provincial registrars of the medical, pharmaceutical and nursing colleges and associations. The assistance provided by provincial registrars of the medical and pharmaceutical associations was of particular value in maintaining up-to-date records concerning the registration status of the various members who number approximately 22,000.

One of the more important phases of narcotic education is the lecturing to graduating classes in medicine and pharmacy at universities across Canada. This program was continued in the past year with the addition potentialities of new drugs being stressed. Talks were also given to custodial officers from penitentiaries, municipal police and other interested organizations at The Calderwood Staff Training College at Kingston.

Groups of pharmacists and members of the nursing profession were given first-hand information on the subject of narcotic records during conducted tours through the Division at Tunney's Pasture.

### **CONVICTIONS**

Illicitly imported supplies continue to be available to addicts. As a result, and because of increased enforcement activity, a total of 522 convictions were registered under the Opium and Narcotic Drug Act during the calendar year. This figure represents 494 persons of whom 336 were male and 158 female. The differential between totals is due to certain individuals across the country being convicted on more than one occasion.

It is interesting to note that only nine males and six females under the age of 20 were so convicted and that the largest age group is from 25 to 50. Heroin was the drug involved in 477 of the 522 cases, or 91 per cent of the total. Three convictions were registered against professional people, two being engaged in the nursing field and one who claimed to be an osteopath in the United States.

### **INTERNATIONAL CO-OPERATION**

Appropriate United Nations units were supplied with all routine reports by Canadian narcotic authorities as well as reports covering major seizures.

TABLE 26  
SHOWING IMPORTS OF MAIN NARCOTICS FOR PERIOD  
1949-58 INCLUSIVE

Unit of Weight—Kilogramme (Pure)

Year	Raw Opium	Medic- inal Opium and Prepa.	Papa- verine	Mor- phine	Hydro- codone	Hydro- mor- phone	Ethyl- mor- phine	Codeine	Phol- codeine	Cocaine	Alpha- prodine	Levor- phanol	Metha- done	Pethi- dine
1949.....	48.722	90.776	26.734	89.813	3.161	0.312	40.625	1,070.240	.....	18.881	.....	.....	30.278	116.405
1950.....	45.615	113.400	36.628	66.254	4.649	0.595	34.218	2,644.176	.....	38.102	.....	.....	2.608	155.358
1951.....	54.658	125.392	47.401	87.104	8.675	0.482	31.128	1,056.718	.....	29.852	.....	.....	2.069	260.508
1952.....	1.502	147.420	43.035	33.254	6.407	0.425	39.775	1,647.078	.....	31.808	.....	.....	9.327	349.924
1953.....	49.442	106.823	43.659	78.246	5.018	0.368	31.411	1,153.335	0.595	49.612	2.636	0.793	5.897*	323.449*
1954.....	5.897	149.688	84.936	60.499	17.775	0.198	39.378	2,814.390	17.775	48.308	1.587	0.567	9.185	592.061
1955.....	31.525	149.688	86.836	52.192	5.301	0.425	24.182	2,396.624	5.698	29.597	6.548	0.567	9.554	430.665
1956.....	17.236	145.350	87.448	47.332	13.012	0.471	55.291	1,893.242	2.602	32.865	2.464	0.338	3.911	323.104
1957.....	2.000	90.902	93.770	30.857	20.013	0.355	19.941	2,039.416	3.872	31.536	5.548	0.353	6.489	534.702
1958.....	0.567	108.864	83.109	28.342	33.338	0.174	19.978	2,445.569	.....	33.474	4.488	0.414	6.788	407.728

\*Pure Drug figure utilized since 1953.

TABLE 27  
SHOWING ESTIMATED CONSUMPTION OF THE MAIN NARCOTICS FOR  
THE PERIOD 1949-58 INCLUSIVE

Unit of Weight—Kilogramme (Pure)

Year	Raw Opium and Preps.	Medic- inal Opium and Preps.	Papa- verine	Mor- phine	Heroin	Hydro- mor- phone	Codeine	Ethyl- morphine	Phol- codeine	Cocaine	Alpha- prodine	Levor- phanol	Metha- done	Pethi- dine
1949.....	56 983	102 230	38 528	77 055	25 458	0 454	1 259 959	26 904	.....	33 935	.....	.....	10 915	194 254
1950.....	66 055	152 380	46 267	74 079	28 350	0 454	1 292 250	31 270	.....	39 888	.....	.....	11 255	206 104
1951.....	57 267	161 397	38 613	71 584	26 309	0 425	1 598 486	44 254	.....	36 004	.....	.....	12 871	252 769
1952.....	57 975	167 974	57 984	71 980	22 000	0 567	1 795 831	21 971	.....	37 989	.....	0 822	11 000	285 966
1953.....	21 603	142 771	47 940	76 318	23 474	0 595	1 508 192	44 850	0 227	40 030	0 822	0 964*	8 845*	298 015*
1954.....	51 568	158 023	73 937	70 024	28 123	0 085	1 819 701	16 812	5 670	33 198	3 147	0 368	10 858	335 324
1955.....	20 950	112 294	71 754	49 329	12 616**	0 425	2 286 994	31 780	4 649	35 693	4 111	0 624	5 953	372 434
1956.....	28 306	185 820	97 995	50 402	6 158	0 390	1 885 903	28 835	6 358	34 507	3 262	0 478	7 530	478 143
1957.....	21 500	112 519	90 158	43 348	5 605	0 319	2 407 116	30 284	4 270	31 921	5 945	0 413	5 583	333 078
1958.....	3 648	140 819	73 469	44 645	2 971	0 245	2 501 709	27 966	1 788	30 188	3 634	0 355	6 768	406 990

\*Pure Drug figure utilized since 1953.

\*\*Imports of Heroin banned as of 1st January, 1955.



TABLE 28

CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT  
DURING THE CALENDAR YEAR 1958

Province	NATURE OF OFFENCE						DRUGS INVOLVED						
	Section 10	Section 4(F)	Illegal Possession	Trafficking	Possession for the Purpose of Trafficking	Total	Heroin	Morphine	Marihuana	Methadone	Demerol	Opium	Total
Newfoundland.....													
Prince Edward Island.....													
Nova Scotia.....	1		3	1		5		3			2		5
New Brunswick.....													
Quebec.....	1	1	10	7	4	23	3	6	11		3		23
Ontario.....	1		114	24	17	156	145		6	2	2	1	156
Manitoba.....			10			10	9		1				10
Saskatchewan.....			1			1					1		1
Alberta.....			13	1		14	10	1		2	1		14
British Columbia.....			302	1	10	313	310	1	1	1			313
Total.....	3	1	453	34	31	522	477	11	19	5	9	1	522

Of the above there was 1 male in Quebec, 1 male in Nova Scotia, 2 males and 4 females in Ontario, 2 males in Alberta, 8 males and 6 females in B.C., who had two convictions, as well as 1 male and 1 female who had three convictions in Ontario.

# WELFARE BRANCH

## INTRODUCTION

The most important development affecting the activities of the Branch during the year was in the area of Civil Defence, for which the Department has been largely responsible since 1951.

In June, 1958 the Government of Canada appointed Lieutenant General Howard Graham to prepare a report on Civil Defence measures. Following the receipt of his report at the end of December, the whole problem of Civil Defence was given intense consideration in the context of the larger problems relating to the development of plans for the survival of the population and the continuity of government in the event of a nuclear war. On March 23rd, 1959, the Prime Minister made a statement of policy on the re-allocation of Civil Defence functions. The co-ordination and overall direction of Civil Defence planning was assigned to the Office of the Privy Council, working through the Emergency Measures Organization. The Department of National Defence was made responsible for warning the civil population, for rescue activities, for decontamination of areas affected by radio-active fallout and for all other activities related in any way to the "re-entry" operation. Assistance to the provincial and local Civil Defence authorities in the maintenance of law and order and the control of traffic was placed under the charge of the Royal Canadian Mounted Police. The Department of National Health and Welfare was given continued responsibility for assistance to the provincial and municipal governments in providing medical, nursing, hospital and public health services and for emergency housing, feeding and welfare assistance. The maintenance and operation of the Civil Defence School at Arnprior also continues to be the responsibility of the Department. Subsequent to the close of the fiscal year an Order in Council provided that this allocation of functions should take effect in September, 1959.

### ***Economic Security for the Aged***

Toward the end of the last fiscal year, the Government of Canada appointed Dr. Robert M. Clark of the University of British Columbia to report on economic security programs for aged persons in the United States and to consider the applicability of such programs for Canada. At the request of Dr. Clark, a member of the Research and Statistics Division was assigned to him to assist in the study. Dr. Clark's report was tabled in Parliament on March 5, 1959, and at the end of the year was under study in the Department.

### ***Fitness and Recreation Services***

The Departmental Consultant on Fitness and Recreation continued to provide, on request, information relative to fitness, recreation, community centres and related subjects. Consultant Services were provided to several provinces, universities and national organizations. The Canadian Physical Efficiency Tests,

developed to provide a practical means whereby individual basic physical efficiency could be assessed with due regard to age, sex, and physique, were conducted in two provinces. Testing was established in one province on a routine sampling basis. Following the British Empire and Commonwealth Conference on Fitness and Recreation held in Cardiff, Wales, in July, 1958, testing projects based on the Canadian tests were organized in Australia, New Zealand and South Africa. The Progressive Power Exercise Program, designed on a graded basis, is being used in several centres across Canada.

### ***Sales Tax Refunds for Welfare Institutions***

The Excise Tax Act was amended during the year to extend the range of one of the provisions in the Act under which refunds of the sales tax are made to public institutions certified by the Minister of National Health and Welfare as providing shelter and care for children or aged, infirm or incapacitated persons living in the institution. Under the amended Act, it is no longer necessary that the shelter and care provided be on a permanent or semi-permanent basis. In the case of institutions in the course of construction, the amendment also makes possible refunds of sales tax on goods purchased within two years prior to the effective date of certification of the institution under the Act. As the result of this amendment, it was possible to certify 18 institutions which were previously ineligible. In addition, 63 new institutions were certified during the year and five institutions re-certified; 19 applications were rejected and nine certifications were cancelled. This brings the total of institutions certified for sales tax refunds to 524.

### ***Incorporation Under the Federal Companies Act***

Applications from welfare, recreation and sports organizations for incorporation under the Federal Companies Act were examined by the Welfare Branch at the request of the Secretary of State.

### ***Other Activities***

The Deputy Minister of Welfare was elected President of the Economic and Social Council of the United Nations in April, 1958, and presided at meetings of the Council in New York in April and Geneva in July. As President of the International Conference of Social Work, he also presided at the Ninth Conference held in Tokyo, November to December 6, 1958.

The main Welfare Branch expenditures were:

	Administration	Net Federal Payments
Welfare Branch	\$ 70,993	
Unemployment Assistance		\$ 23,933,535
Family Allowances	2,944,807	474,787,068
Old Age Security		559,279,858
Old Age Assistance		30,205,289
Blind Persons Allowance	109,017	4,236,212
Disabled Persons Allowance		15,330,814

Details as to the programs whose expenditures are shown in the foregoing statement are set out in the following pages.

## FITNESS AND RECREATION SERVICES

Interest in physical efficiency and conditioning exercise continued to increase, with some national organizations undertaking specific programs in physical efficiency. The Canadian Physical Efficiency Tests, developed to provide a practical means whereby individual basic physical efficiency could be assessed with due regard to age, sex, and physique, were conducted in two provinces. Testing was established in one province on a routine sampling basis. Following the British Empire and Commonwealth Conference on Fitness and Recreation held in Cardiff, Wales, in July, 1958, interested authorities in Austria, New Zealand and South Africa have organized testing projects based on the Canadian tests.

The Progressive Power Exercise Program, designed on a graded basis, is being used in several centres. The lack of printed information has limited its use to groups able to provide their own multigraphing services.

Personnel in the fitness and recreation fields, especially persons qualified in research, continued to be difficult to recruit largely because graduate study in these fields is not available in Canada, and few Canadians investing in post graduate study in other countries, return.

Information relative to fitness, recreation, community centres, and related subjects continued to be made available. Long-term planning appeared to be replacing the single project approach.

Consultant services were provided for several provinces, universities and national organizations at their request.

## FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION

The year ending March 31, 1959, was not remarkable for any outstanding occurrences in connection with the administration of Family Allowances and Old Age Security pensions, inasmuch as substantial legislative changes had taken place in the previous fiscal year. It was rather one of continued growth in the scope of both programs. While this growth naturally resulted in an increased work-load, without any corresponding increase in staff, it was possible to achieve some progress in the review and consolidation of procedures.

Active Family Allowances accounts maintained in regional offices at the end of the year numbered 2,504,189,\* an increase of 85,279 over the number maintained at the end of the previous year, which was 2,418,910. Again last year, the increase was considerably greater than that reported at the end of the year 1957-58. There were 863,540\* active Old Age Security accounts in regional offices at the year-end, as compared with 836,048 at the end of the previous year, an increase of 27,492. Unlike the increase in Family Allowances accounts, that in Old Age Security was not as large as that reported at the end of the year 1957-58. The total increase for the past year in active accounts, both Family Allowances and Old Age Security, was approximately 3.5 per cent.

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\*It will be noted that in the case of both Family Allowances and Old Age Security, the number of active accounts maintained is greater than the number of accounts in pay, as shown later in this report and in the following tables. The difference results from the fact that at all times there are some accounts where payment has been suspended for various reasons.



### Staff and Accommodation

During the year just ended, there were again some changes in senior personnel of this Division. Mr. R. B. Curry, who had been seconded for duty with the Privy Council June 1, 1957, terminated his appointment as Director of this Division. He was succeeded by J. Albert Blais who had served as Assistant Director of the Division since 1946. As the result of a promotional competition, Mr. R. J. G. Mitchell was appointed to the position of Regional Director for Saskatchewan, replacing the former Regional Director who had transferred to another department. The unfortunate death of Mr. C. B. Howden, Regional Director for Manitoba, caused a vacancy which was also filled by promotional competition. The successful candidate was Mr. W. F. Hendershot, at present Executive Assistant to the Deputy Minister of Welfare. Mr. Hendershot will take up his new duties on June 1, 1959. Following the resignation of Mr. A. S. Tait, Regional Director for Prince Edward Island, another competition was held in order to secure a replacement. Mr. J. E. Green was successful in this competition and is now Regional Director for that province. Mr. Green was formerly Supervisor of Welfare Services in the Prince Edward Island regional office.

The number of employees on the staff of the Division as of March 31, 1959, was 848, the same number as at the end of the previous year. Staff turn-over varied from regional office to regional office. Generally speaking, it was perhaps slightly lower than in previous years.

The only regional office which was re-located during the past year was the Nova Scotia Regional Office in Halifax. That office was moved to the Ralston Building in that city. The long-held hope of new accommodation for the Ontario Regional Office in Toronto now appears to be close to becoming a reality. It is expected that new quarters in a federal building will be ready for occupancy some time in 1960. It is anticipated also that the Quebec Regional Office will be provided eventually with space in a new federal building in Quebec City.

### Costs of Administration

The following is a comparison between the costs of administering the Family Allowances and Old Age Security programs in the fiscal years 1957-58 and 1958-59:

	Dept. of National Health & Welfare	Dept. of Finance (Treasury)	Dept. of Public Works	Total
1957-58	\$2,898,891.29	\$4,082,834.18	\$348,008.84	\$7,329,734.31
1958-59	2,944,807.35	4,045,369.81	221,254.06	7,211,431.22

The total cost of administering the two programs in the past year was, as shown, considerably less than in the year before, and amounted to only 69 per cent of the total expenditures of Family Allowances and Old Age Security.

It should be noted that of \$4,045,369.81 Finance Treasury costs, \$1,915,928.45 were expended for postage on cheques. This amounted to 47 per cent of the total Treasury costs.



## Welfare Services

The nature of the work carried on in the Welfare Sections of regional offices remained much the same as in the past. The volume of work did, however, increase by about 10 per cent. It was possible to handle this increased volume because of an improved staff situation. Fortunately, only one social worker position became vacant during the year and the person who had occupied it was not lost to the Division. This change, which took place in Prince Edward Island, involved the advancement of Mr. J. E. Green to the post of Regional Director and was referred to earlier in this report.

The improved staff situation also permitted better liaison with child placing agencies and child caring institutions right across Canada. It is considered that liaison is one of the most important aspects of the work of the professional staff.

This Division continues to act as a referral agency in regard to social problems which come to its attention in the course of paying out Family Allowances and Old Age Security. Last year almost 1,000 recipients were referred to other agencies for their services.

There was a slight increase in the past year in the number of cases reported where misuse of Family Allowances was indicated. As in the past, about 65 per cent of these situations proved to be not quite as they appeared from the reports. In only 223 cases was it found necessary to pay Family Allowances to a third party.

The reviewing of trusteeships continues to be the main job of the Welfare Sections in the Old Age Security field. Some 11,500 cases involving trusteeship were dealt with during the year.

## FAMILY ALLOWANCES

### Payments

Total net payments for the year 1958-59 were \$474,787,067, an increase of \$36,900,508 over those for the previous year. Tables 29 and 30 appended hereto give additional details regarding payments of allowances.

As anticipated, the numbers of families and children receiving Family Allowances and the expenditures made in March, 1959, were substantially greater than those in March, 1958. The increases are shown in the following table:

	No. of Families	No. of Children	Expenditures
March, 1959	2,492,581	6,035,256	40,262,527
March, 1958	2,406,734	5,796,380	38,697,160
Increase	85,847	238,876	\$ 1,565,367

In March, 1959, as in March, 1958, the province having the largest number of families and children receiving Family Allowances, and in which the largest expenditure was made, was Ontario.

### Overpayments

At the end of the year 1958-59, the total amount of Family Allowances outstanding as overpaid was \$206,337.44, as compared with \$185,596.76 at the end of 1957-58. This increase was small, considering that during the past year, a gross amount of more than \$475,000,000 was paid in Family Allowances.

It should be noted that the total amount listed as outstanding at any time is the balance of all overpayments which occurred since Family Allowances were first paid in 1945, less the collections which have been made and lesser amounts deleted from the accounts as uncollectable by authority of the Treasury Board. Table 31 appended hereto shows a breakdown, by category, of the overpayments outstanding at March 31, 1959.

### ***School Attendance and Employment***

Fewer children lost Family Allowances for one month or more during 1958-59, as a result of non-attendance at school, than did so in 1957-58. The number was 7,515 for the past year, as compared with 8,769 in the previous year, the difference being 1,254. It should be noted, also, that allowances were reinstated on resumption of attendance at school in the case of 4,901 children during the past year. All information received in the course of the year supports the inference which may be drawn from the figures quoted, that is, that the Family Allowances program continues to have an important influence on school attendance in Canada.

Again during the year ended March 31, 1959, fewer children lost Family Allowances because of employment for wages than was the case in the preceding year. The number dropped from 19,898 in 1957-58 to 16,478 in the last year. Also during the last year, allowances were reinstated for 1,574 children who ceased to work.

## **OLD AGE SECURITY**

### ***Payments***

The number of persons who received pensions in March, 1959, was 854,284 as compared with 827,560 in March, 1958, an increase of 26,724. The increase in total net payments for March, 1959, over those for March, 1958, was \$1,456,260. The total net payments for the year 1958-59 were \$559,279,858. Table 32 appended hereto gives further details regarding payment of Old Age Security pensions.

### ***Overpayments***

Each year, certain payments made to pensioners must be considered as having been improperly paid, usually because of the pensioners having been absent from Canada and ineligible for pension for some months. These amounts are added to outstanding overpayments made in earlier years. At the same time, collections are being made continuously. At the end of March, 1959, the total amount of outstanding overpayments of Old Age Security, out of all the payments made since January, 1952, amounting to several billions of dollars, was \$40,706. The amount outstanding at March 31, 1958, was \$37,993.

### ***Proof of Age***

Generally speaking, there is an increase each year in the percentage of applicants for pension whose date of birth is verified by means of a birth or baptismal certificate, which is considered the best type of evidence. This applies to a greater extent, perhaps, to Canadian-born applicants, though many persons born outside of Canada have in their possession, or can obtain, such a

certificate. In a large number of cases, satisfactory evidence of age consisting of documents other than birth or baptismal certificates can be obtained, both by Canadian-born and foreign-born applicants. In those cases where the date of birth cannot be established by documentary evidence, recourse is had to a tribunal, as provided for under the Old Age Security Regulations, in order to determine the date of birth for Old Age Security purposes. In the past year, tribunals were convened in 538 cases, as compared with 453 in the preceding year. Decisions of tribunal members were favourable to the applicant in 381 cases and unfavourable in 157 cases.

### ***Absences from Canada***

Under the Old Age Security Act, as amended, pension may be paid for six months of absence from Canada in any calendar year, exclusive of the months of departure and return, provided the pensioner returns to this country, after an absence, within six months from the last day of the month in which he left. In the year 1958-59, 13,157 pensioners returned to Canada after being out of the country and had their pensions reinstated for the full period they were away, with absolutely no loss. During the same period, 241 pensioners returned to Canada after an absence, and had their pensions reinstated, but with a loss of payment for one or more months. Of those who lost payment, the majority, 186, lost more than six months. Also in the past year, 365 pensioners were reported as having left Canada permanently.

TABLE 29

DEPARTMENT OF NATIONAL HEALTH AND WELFARE COMPARATIVE STATEMENT OF FAMILY ALLOWANCES PAYMENTS  
BETWEEN MONTH OF MARCH 1958 AND MONTH OF MARCH 1959

Province	Month of March 1958				Month of March 1959			
	Families Receiving		Children Receiving		Families Receiving		Children Receiving	
	Number	Average Allow. per Family	Number	Average Allow. per Child	Number	Average Allow. per Family	Number	Average Allow. per Child
Newfoundland	60,961	20.40	187,035	6.65	62,203	20.57	192,030	6.66
Prince Edward Island	13,240	18.61	36,839	6.69	13,443	18.72	37,426	6.72
Nova Scotia	101,509	16.71	253,713	6.68	103,105	16.79	258,684	6.69
New Brunswick	79,237	18.89	224,047	6.68	80,857	19.00	229,505	6.69
Quebec	664,852	18.02	1,786,800	6.70	686,872	18.01	1,848,138	6.69
Ontario	833,495	14.59	1,825,274	6.66	870,582	14.69	1,922,653	6.65
Manitoba	124,257	15.22	283,863	6.66	126,989	15.34	292,697	6.66
Saskatchewan	127,904	15.89	306,045	6.64	130,210	16.03	313,926	6.65
Alberta	179,273	15.36	414,550	6.64	187,561	15.51	437,883	6.64
British Columbia	217,009	14.35	466,169	6.68	225,492	14.49	488,891	6.68
Northwest Territories & Yukon	5,033	15.87	12,045	6.63	5,267	17.21	13,423	6.75
NATIONAL	2,406,734	\$16.08	5,796,380	\$6.68	2,492,581	\$16.15	6,035,256	\$6.67
								\$40,262,527

TABLE 30  
DEPARTMENT OF NATIONAL HEALTH AND WELFARE, NET FAMILY  
ALLOWANCES PAYMENTS—COMPARISON BY FISCAL YEARS

Province	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53
Newfoundland.....	2,256,477 00	2,295,286 00	9,747,030 00	10,224,103 00	10,613,908 00	11,038,874 49
Prince Edward Island.....	14,207,957 82	14,515,131 00	2,411,291 00	2,467,257 00	2,495,987 00	2,522,830 00
Nova Scotia.....	12,086,891 93	12,462,093 00	15,291,614 07	15,660,003 27	15,949,540 73	16,297,169 95
New Brunswick.....	87,157,243 46	89,304,108 45	13,375,434 33	13,708,198 00	13,892,907 00	14,287,535 05
Quebec.....	77,328,534 50	80,151,249 69	95,901,763 15	99,558,247 04	102,883,811 56	107,084,124 36
Ontario.....	14,798,436 82	15,016,277 72	84,940,808 63	89,034,870 53	93,207,144 30	98,303,868 20
Manitoba.....	18,561,329 55	18,527,408 22	15,668,695 50	16,235,519 56	16,703,466 69	17,283,659 61
Saskatchewan.....	18,181,662 50	18,695,325 00	18,953,599 79	19,237,070 80	19,424,561 76	19,723,352 42
Alberta.....	18,012,188 75	19,347,836 58	19,822,386 97	20,762,273 29	21,573,429 99	22,575,583 60
British Columbia.....	574,470 00	595,063 00	20,813,661 00	21,952,569 36	23,063,642 85	24,399,858 81
Yukon & Northwest Territories.....			587,749 50	625,348 67	649,273 15	680,828 30
NATIONAL.....	\$263,165,192 33	\$270,909,778 66	\$297,514,033 94	\$309,465,460 52	\$320,457,673 03	\$334,197,684 79
Province	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59
Newfoundland.....	11,497,719 33	11,967,775 00	12,414,789 00	12,881,415 00	14,131,153 26	15,162,900 03
Prince Edward Island.....	2,558,097 00	2,590,704 00	2,621,722 00	2,640,585 00	2,824,310 34	2,994,334 00
Nova Scotia.....	16,716,374 00	17,147,920 00	17,596,684 40	17,973,392 00	19,400,493 32	20,560,461 88
New Brunswick.....	14,700,819 00	15,073,324 00	15,451,544 00	15,779,360 00	17,074,970 00	18,201,518 00
Quebec.....	111,441,301 49	116,057,182 00	120,389,837 92	124,368,344 00	136,080,634 08	146,278,434 72
Ontario.....	104,409,819 41	110,492,480 00	116,604,314 27	122,539,123 00	136,706,313 83	150,186,233 35
Manitoba.....	17,979,853 88	18,705,349 00	19,418,713 24	19,888,717 00	21,520,778 50	23,091,594 01
Saskatchewan.....	20,244,540 00	20,894,790 00	21,401,114 00	21,644,971 00	23,241,829 00	24,789,277 50
Alberta.....	23,958,080 50	25,390,585 00	26,752,793 00	27,953,311 00	31,029,720 19	34,122,637 00
British Columbia.....	25,904,496 28	27,405,872 00	29,097,077 14	31,029,472 00	34,969,036 05	38,409,308 36
Yukon & Northwest Territories.....	702,801 30	739,983 00	786,437 15	819,150 00	907,321 25	990,349 00
NATIONAL.....	\$350,113,902 19	\$366,465,964 00	\$382,535,026 12	\$397,517,840 00	\$437,886,559 82	\$474,787,067 85



TABLE 31  
DEPARTMENT OF NATIONAL HEALTH AND WELFARE OVERPAYMENTS OF FAMILY ALLOWANCES  
March, 1959  
(The overpayments may have occurred at any time between July 1, 1945 and  
March 31, 1959)

Province	Overpayments Recoverable by Deduction		Overpayments Recoverable by Collection		Overpayments Considered Uncollectable		Total Overpayments Outstanding	
	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.	Number of Accounts	Amount \$ cts.
Newfoundland.....	41	1,127 00	33	1,055 95	42	786 50	116	2,969 45
Prince Edward Island.....	21	395 00	3	164 00	6	147 50	30	706 50
Nova Scotia.....	42	1,045 00	119	1,997 00	103	3,256 25	264	6,298 25
New Brunswick.....	23	1,396 00	53	1,040 00	118	4,661 00	194	7,097 00
Quebec.....	359	20,098 05	570	33,237 18	841	48,016 65	1,770	101,351 88
Ontario.....	216	9,240 42	658	17,734 57	755	17,741 36	1,629	44,716 35
Manitoba.....	28	1,121 00	50	817 00	79	2,676 00	157	4,614 00
Saskatchewan.....	61	1,647 00	80	4,683 00	80	4,449 00	221	10,779 00
Alberta.....	57	1,619 00	82	2,648 00	133	4,585 69	272	8,852 69
British Columbia.....	87	3,587 00	97	3,748 00	136	4,231 32	320	11,566 32
Yukon & Northwest Territories.....	56	3,217 00	99	3,730 00	8	439 00	163	7,386 00
NATIONAL.....	991	44,492 47	1,844	70,854 70	2,301	90,990 27	5,136	206,337 44*

\* In addition to this amount outstanding, there has been deleted as uncollectable by Treasury Board authority between July, 1945 and March 31, 1959, a net amount of \$145,577.71.

TABLE 32  
DEPARTMENT OF NATIONAL HEALTH AND WELFARE STATISTICS ON OLD AGE SECURITY

Province	No. of Pensioners in Pay March, 1958	Net Payment for March, 1958 only	No. of Pensioners in Pay March, 1959	Net Payment for March, 1959 only	Total Net Payment for Fiscal Year Ended March 31, 1958	Total Net Payment for Fiscal Year Ended March 31, 1959
Newfoundland.....	16,557	911,047	16,782	925,258	9,490,737	11,012,906
Prince Edward Island.....	7,100	394,079	7,153	395,509	4,139,668	4,809,942
Nova Scotia.....	39,694	2,215,298	40,395	2,249,021	23,008,418	26,780,353
New Brunswick.....	28,956	1,616,906	29,509	1,641,694	16,747,674	19,583,702
Quebec.....	174,476	9,655,806	179,829	9,945,313	99,490,164	116,993,184
Ontario.....	301,183	16,589,519	310,094	17,086,362	172,804,152	203,257,138
Manitoba.....	50,079	2,771,744	52,066	2,884,688	28,562,399	34,029,850
Saskatchewan.....	51,300	2,850,365	53,469	2,962,386	29,420,360	35,099,989
Alberta.....	53,319	2,971,982	55,968	3,124,708	30,443,217	36,534,769
British Columbia.....	104,297	5,808,570	108,396	6,023,573	59,408,009	70,769,169
Yukon & Northwest Territories.....	599	33,095	623	36,159	344,305	408,856
NATIONAL.....	827,560	\$45,818,411	854,284	\$47,274,671	\$473,859,103	\$559,279,858

## OLD AGE ASSISTANCE

### ALLOWANCES FOR BLIND PERSONS AND ALLOWANCES FOR DISABLED PERSONS

#### *Old Age Assistance*

Old age assistance is provided under a federal-provincial plan with the cost being shared equally by the provinces and the Government of Canada. The main requirements are in connection with age, residence and income. The receipt of old age security, blindness allowance, disability allowance or war veterans allowance disqualifies an applicant. Old age assistance is administered and paid by the provinces under provincial law with reimbursement by the Federal Government where the decisions are in accordance with the provisions of the Old Age Assistance Act and the Old Age Assistance Regulations.

There were no amendments to the Act or regulations during the fiscal year 1958-59. Under agreements between Canada and the provinces as amended in 1957 and 1958, the provinces paid assistance at the maximum amount of \$55 a month. In all provinces the maximum amounts of income allowed, including assistance, were the amounts specified in the Act: \$960 a year in the case of an unmarried person, \$1,620 in the case of a married person and \$1,980 where the spouse was blind. The age requirement was 65 years and the residence requirement ten years in Canada.

There was a considerable increase in the number of recipients during the fiscal year, the number as at March 31, 1959, being 97,836 as compared with 92,484 as at March 31, 1958. Recipients represent about 21 per cent of the estimated total population 65 to 69 years of age. Federal payments to the provinces for 1958-59 totalled \$30,207,284.36 as compared with \$24,961,383.23 for 1957-58. The substantial increase is explained partly by the fact that the maximum payment was \$55 a month throughout the whole of the fiscal year 1958-59. In 1957-58 the maximum amount payable was increased from \$40 to \$46 a month from July 1, 1957 and from \$46 to \$55 a month from November 1, 1957.

The application of a means test naturally results in payments of varying amounts. However, the great majority of recipients receive the maximum old age assistance payable. As at March 31, 1959, there were 76,208 recipients receiving the maximum payment or 77.89 per cent. Of the remainder, 11,427 or 11.68 per cent received assistance payments in amounts over \$40 a month.

Recipients of old age assistance on reaching 70 are granted old age security. The substitution of an old age pension for old age assistance can mean a higher payment for some but for the majority the amount received monthly is the same. In the last few fiscal years, the number of recipients transferred to old age security has varied little, being about 22,000. In 1956-57, the 24,423 new cases approved were not greatly in excess of the number transferred which was 22,616. The difference was more marked in the last two fiscal years. In 1957-58, there were 22,256 recipients transferred to old age security and 28,638 new applications approved. In 1958-59, 22,424 were transferred and 32,291 were approved. Since the inception of the Act, 142,436 recipients have been transferred. About 60 per cent of applicants whose applications are approved are 65 years of age.

It is difficult to form any reliable conclusion from an increase or decrease in the number of recipients. Higher income ceilings extend the coverage and certainly any increase in the amount that can be paid stimulates interest among persons who might be able to establish eligibility. In 1956-57, there were 29,060 applications; in 1957-58, there were 33,118; and in 1958-59, there was a further increase to 37,255. The higher figures are probably explained by the amendments to the Act in 1957 and the general economic and employment conditions during the last few years.

Additional statistical information appears at the end of the report on this Division.

### ***Allowances for Blind Persons***

Blind persons allowances are provided under a federal-provincial plan, 75 per cent of the cost of which are payable by the Government of Canada and the remaining 25 per cent by the provinces. In addition to a medical test, an applicant must fulfil age, residence and income requirements. The receipt of old age assistance, old age security, disability allowance, war veterans allowance or a pension in respect of blindness under the Pension Act disqualifies an applicant. The allowances are administered and paid by the provinces under provincial law with reimbursement by the Federal Government where the decisions are in accordance with the provisions of the Blind Persons Act and the Blind Persons Regulations.

The Act was not altered during the fiscal year 1958-59 nor were there any amendments to the regulations under the Act. The maximum allowance paid in all parts of Canada was \$55 a month. The maximum amounts of income allowed, including the allowance, were the amounts specified in the Act, namely: \$1,200 a year in the case of an unmarried person; \$1,680 where there was a dependent child; \$1,980 a year in the case of a married person; and \$2,100 where there was a blind spouse. The age requirement was 18 years and the residence requirement, ten years in Canada.

The number of recipients increased from 8,400 as at March 31, 1958 to 8,747 as at March 31, 1959. There was a substantial increase in federal expenditure due partly to the fact that allowances were paid at the maximum rate of \$55 throughout the whole of the fiscal year 1958-59. In 1957-58 the maximum allowance was increased from \$40 to \$46 a month from July 1, 1957 and to \$55 a month from November 1, 1957. Total federal payments for 1958-59 were \$4,235,131.48 as compared with \$3,575,724.04 for 1957-58.

At the close of the fiscal year 7,936 or 90.73 per cent of recipients were receiving the maximum allowance. Of the remainder, 355 or 4.06 per cent, received allowances of \$40 or more.

On reaching 70, recipients of blind persons allowances become eligible to receive pensions under the Old Age Security Act paid entirely by the Government of Canada. In each of the last several years between three and four hundred have been granted old age pensions. In 1958-59 the number was 326. Since the inception of the Act, 2,636 recipients of blindness allowances have been transferred to old age security. Although the age at which blindness allowances may be granted is 18 years, transfers can be relatively high in view of the numbers of blind recipients in the older age groups. Of the 1,037 applications approved in 1958-59, 538 applicants were over 50.



The number of recipients at the end of the fiscal year was the highest since the Act came into operation, due no doubt, to the amendments to the Act in 1957 increasing both the maximum allowance payable and the maximum income allowed.

Statistics on blindness allowances appear at the end of the report on this Division.

### ***Allowances for Disabled Persons***

Disabled persons allowances are paid under a federal-provincial plan, the cost being shared equally by the provinces and the Government of Canada. In addition to a medical test, an applicant must fulfil specific requirements regarding age, residence and income. The allowances are not payable to persons in tuberculosis sanatoria or mental institutions. Persons in other institutions may receive allowances if the greater part of the cost of their maintenance is paid out of their own resources or by private individuals. The period in a hospital is restricted. The receipt of old age security, old age assistance, blindness allowance, war veterans allowance or mothers allowance disqualifies an applicant. Disability allowances are administered and paid by the provinces under provincial law. Where their decisions are made in accordance with the provisions of the Disabled Persons Act and Regulations, they may claim reimbursement by the Federal Government.

There were no amendments to the Act or regulations during the fiscal year 1958-59. The maximum allowance paid in all parts of Canada during the year was \$55 a month. All agreements stipulate, as the maximum amounts of income allowed, the amounts shown in the Act which are: \$960 a year in the case of an unmarried person; \$1,620 a year in the case of a married person; and \$1,980 a year in the case of a married person with a blind spouse. The age requirement is 18 years and the residence requirement ten years in Canada.

The number of recipients as at March 31, 1959, was 48,040 as compared with 41,840 as at March 31, 1958. The federal expenditure increased from \$11,091,664.45 in 1957-58 to \$15,330,368.16 in 1958-59. Part of the increase was due to the fact that allowances were paid throughout 1958-59 at the maximum rate of \$55 a month. Amendments to the Act in 1957 increased the maximum allowance from \$40 to \$46 a month as from July 1, 1957, and from \$46 to \$55 a month as from November 1, 1957.

At the close of the fiscal year, 91.46 per cent of recipients received the maximum allowance of \$55 a month. The actual number was 43,936. Of the remainder, 2,761 received allowances of more than \$40 a month. These represented 5.75 per cent of the total number of recipients.

The Old Age Security Act has so far had little effect on the number of recipients of disabled persons allowances. There were only 31 recipients transferred during 1958-59. Since the inception of the Act, the total number has been 153. One reason for the small number is that several provinces encourage recipients of disability allowances to apply for old age assistance when they reach the age of 65. It follows that where this is done, the transfers to old age security are from old age assistance.

There has been considerable variation in the number of applications approved in the different fiscal years, the numbers for 1955-56, 1956-57 and 1957-58 being 21,097, 8,925 and 14,068 respectively. In addition to amendments to the Act in 1957 increasing the maximum allowance and the maximum



amounts of income allowed and relaxing restrictions on the payment of allowances to persons in institutions, the regulation defining the expression "totally and permanently disabled" was amended. The marked increase in the number of cases approved in 1957-58 over the number approved in 1956-57 was in part due to the broader definition. The number of cases approved in 1958-59 was 11,476.

Further statistical information may be found at the end of the report on this Division.

TABLE 33  
(Old Age Assistance)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ASSISTANCE AND TOTAL FEDERAL PAYMENTS, UNDER THE OLD AGE ASSISTANCE ACT, BY PROVINCES  
For the Fiscal Year 1958-59

Province	Number of Recipients	Average Monthly Assistance	Federal Payments
	Mar. 31, 1959	Mar. 31, 1959	
Alberta.....	6,096	\$50.62	\$1,877,243.00
British Columbia.....	7,276	51.96	2,291,661.85
Manitoba.....	4,836	51.98	1,572,889.81
New Brunswick.....	5,795	51.62	1,829,265.76
Newfoundland.....	5,378	53.20	1,715,386.07
Nova Scotia.....	5,485	49.40	1,611,693.19
Ontario.....	22,381	48.96	6,707,318.27
Prince Edward Island.....	756	44.45	191,758.72
Quebec.....	34,134	51.88	10,593,250.32
Saskatchewan.....	5,537	51.35	1,763,548.80
Northwest Territories.....	124	51.02	39,989.07
Yukon Territory.....	38	55.00	13,279.50
Total.....	97,836	.....	30,207,284.36

TABLE 34  
(Blind Persons Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE AND TOTAL  
FEDERAL PAYMENTS, UNDER THE BLIND PERSONS ACT, BY PROVINCES

For the Fiscal Year 1958-59

Province	Number of Recipients	Average Monthly Allowance	Federal Payments
	Mar. 31, 1959	Mar. 31, 1959	
Alberta .....	464	\$53.22	\$ 223,720.72
British Columbia.....	530	53.61	248,774.22
Manitoba .....	409	53.51	198,648.89
New Brunswick.....	724	53.90	357,742.06
Newfoundland.....	407	54.41	199,974.98
Nova Scotia.....	787	53.40	376,544.49
Ontario.....	1,833	50.75	867,246.99
Prince Edward Island.....	87	53.48	43,337.70
Quebec.....	3,056	54.06	1,500,856.38
Saskatchewan.....	417	53.01	203,033.80
Northwest Territories.....	28	51.96	12,745.50
Yukon Territory.....	5	55.00	2,505.75
Total .....	8,747		4,235,131.48

TABLE 35  
(Disabled Persons Allowances)

NUMBER OF RECIPIENTS, AVERAGE MONTHLY ALLOWANCE AND TOTAL  
FEDERAL PAYMENTS, UNDER THE DISABLED PERSONS ACT, BY PROVINCES

For the Fiscal Year 1958-59

Province	Number of Recipients	Average Monthly Allowance	Federal Payments
	Mar. 31, 1959	Mar. 31, 1959	
Alberta.....	1,648	\$53.09	\$515,931.60
British Columbia.....	1,585	53.98	490,156.46
Manitoba.....	1,230	54.14	381,004.23
New Brunswick.....	1,734	54.24	552,337.78
Newfoundland.....	980	54.69	302,223.98
Nova Scotia.....	2,184	52.65	662,727.30
Ontario.....	11,469	53.88	3,485,924.05
Prince Edward Island.....	596	51.28	169,016.03
Quebec.....	25,352	53.94	8,362,518.04
Saskatchewan.....	1,248	54.15	405,443.19
Northwest Territories.....	12	54.58	2,893.00
Yukon Territory.....	2	55.00	192.50
Total.....	48,040	.....	15,330,368.16

## UNEMPLOYMENT ASSISTANCE

The Unemployment Assistance Act of 1956, as amended in 1957, provides for a federal contribution of 50 per cent of the costs of unemployment assistance incurred by a province or by a municipality within the province. An agreement for the sharing of these costs has been signed with all of the provinces (except Quebec) and with the Northwest Territories.

The rates of assistance and the conditions under which assistance may be granted are determined by the province or municipality. Expenditures for both employable and unemployable persons who are unemployed and in need may be included and the costs of maintaining persons in "homes for special care", such as nursing homes or homes for the aged, are shareable under the agreement. Travelling expenses may be included for certain defined purposes.

The agreement provides for the exclusion of payments made in respect of medical, hospital, nursing, dental and optical care, drugs and dressings, funeral expenses, and the cost of administration.

The total federal expenditure for unemployment assistance during the year 1958-59 was \$23,933.534. Part of this expenditure (\$4,293,480) covered the federal share of claims that related to a period prior to the fiscal year 1958-59. On the other hand, because the provinces may submit claims up to six months after the month in which the assistance was given there are still some claims for expenditures made by the provinces and municipalities during 1958-59 that were not received by the close of the fiscal year. Complete information in regard to federal reimbursement of provincial and municipal expenditures for 1958-59 will be shown in the next annual report.

Details concerning the monthly amounts paid to each province and the number of persons assisted are shown in Tables 36 and 39.

TABLE 36  
(Federal-Provincial Unemployment Assistance Agreements)  
FEDERAL SHARE, BY MONTH AND PROVINCE, FISCAL YEAR 1958-59

Month	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
April 1958.....	224,915 77	8,250 95	25,389 80	19,531 61	721,557 41	153,469 13	113,340 42	135,221 18	383,941 86	1,785,618 13
May 1958.....	215,952 94	7,036 69	29,253 36	18,534 96	682,610 76	150,827 11	106,711 24	128,838 89	393,726 91	1,733,492 86
June 1958.....	185,297 56	5,274 49	26,237 95	15,958 11	696,450 27	144,353 13	97,256 24	128,865 48	391,773 32	1,691,466 55
July 1958.....	181,567 24	6,570 70	28,103 02	17,181 34	724,714 38	150,676 20	94,376 94	115,581 33	412,363 13	1,731,134 28
August 1958.....	218,463 47	6,527 45	29,622 27	16,996 82	796,703 31	154,148 52	101,142 62	133,154 53	452,282 27	1,909,041 26
September 1958.....	281,476 24	5,788 03	32,029 41	17,535 72	792,965 83	160,450 86	103,598 92	140,133 16	480,407 44	2,014,385 61
October 1958.....	288,164 20	6,332 07	17,772 41	.....	856,656 56	.....	122,087 44	147,366 61	497,508 29	1,935,887 58
November 1958.....	303,773 16	2,361 00*	17,174 78	.....	921,516 26	.....	129,242 68	152,519 02	540,904 16	2,067,491 06
December 1958.....	262,196 11	3,795 53*	19,538 10	.....	957,674 66	.....	136,187 82	147,729 85	608,936 76	2,136,058 83
January 1959.....	275,190 07	7,957 16	23,109 63	.....	.....	.....	11,819 04	106,981 39	599,299 19	1,024,356 48
February 1959.....	266,042 45	7,832 39	.....	.....	.....	.....	2,226 98	111,798 09	607,753 98	995,653 89
March 1959.....	.....	.....	.....	.....	.....	.....	.....	.....	615,467 35	615,467 35
Total.....	2,703,039 21	67,726 46	248,230 73	105,738 56	7,150,849 44	913,924 95	1,017,990 34	1,448,189 53	5,984,364 66	19,640,053 88

Table prepared April 30, 1959.

\* Federal share was reduced because of adjustments that relate to previous months.



TABLE 37  
(Federal-Provincial Unemployment Assistance Agreements)

FEDERAL SHARE, BY MONTH AND PROVINCE, FISCAL YEAR 1957-1958

Month	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick		Ontario		Manitoba		Saskatchewan		Alberta		British Columbia		Total	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
April 1957	140,831	73	7,560	09			4,713	89	172,443	36	74,531	61	56,216	78			207,545	50	663,842	96
May 1957	132,459	47	5,961	44			4,489	68	168,783	27	73,271	06	53,055	54			201,786	92	639,807	38
June 1957	114,474	18	5,091	83			2,161	27	163,624	74	59,642	00	39,666	65			194,521	80	579,182	47
July 1957	81,888	59	4,235	26			1,679	30	140,232	02	62,422	96	39,170	59			178,650	09	508,278	81
August 1957	79,123	78	4,673	41			1,782	65	143,836	44	62,345	98	42,360	24			177,041	52	511,164	02
September 1957	101,113	22	5,141	60			1,941	06	150,650	91	62,497	95	40,051	06			178,166	55	539,562	35
October 1957	132,309	72	4,938	74			2,691	04	169,066	31	72,537	27	51,910	44			187,661	93	621,115	45
November 1957	159,510	02	5,240	87			5,916	96	185,366	48	82,593	44	64,754	19			209,720	68	713,102	64
December 1957	163,514	64	5,620	40			8,998	55	246,179	55	98,918	07	87,695	70			242,270	46	853,197	37
January 1958	235,486	43	7,505	87	25,772	53	19,609	76	674,014	74	146,226	00	111,356	22	136,837	08	343,884	05	1,700,692	68
February 1958	228,770	40	8,639	49	24,385	82	19,041	37	697,735	24	139,857	52	113,969	53	132,804	50	349,581	40	1,714,792	27
March 1958	218,137	23	8,401	10	26,115	01	21,191	14	732,846	15	150,161	92	112,872	72	140,801	29	357,737	59	1,767,264	15
Total	1,787,626	41	73,010	10	76,273	36	94,216	67	3,644,779	21	1,085,005	78	813,079	66	410,442	87	2,828,568	49	10,813,002	55

Table prepared April 30, 1959.

TABLE 38

(Federal-Provincial Unemployment Assistance Agreements)

PERSONS ASSISTED, BY MONTH AND PROVINCE, FISCAL YEAR 1958-59

Month	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
April 1958.....	47,840	1,507	5,120	5,872	57,316	12,874	12,734	11,463	24,341	179,067
May 1958.....	46,149	1,148	5,345	5,122	54,371	12,317	11,157	10,855	24,341	170,805
June 1958.....	41,518	1,075	4,758	4,199	53,156	11,423	11,166	10,585	24,664	162,544
July 1958.....	40,785	1,020	5,319	4,474	57,368	11,753	10,725	9,364	26,449	167,257
August 1958.....	47,024	1,018	5,516	4,656	59,512	11,683	10,762	10,823	28,699	179,693
September 1958.....	58,474	1,043	6,055	4,649	60,047	11,787	11,243	10,572	29,863	193,733
October 1958.....	57,689	1,069	2,966	.....	64,490	.....	12,098	11,500	31,388	181,200
November 1958.....	59,592	1,032	2,784	.....	69,769	.....	12,306	10,839	34,075	190,397
December 1958.....	52,519	1,335	3,241	.....	76,617	.....	12,035	10,057	37,252	193,056
January 1959.....	55,372	1,406	4,128	.....	.....	.....	1,898	5,986	37,719	106,509
February 1959.....	53,367	1,366	.....	.....	.....	.....	805	6,655	38,854	101,047
March 1959.....	.....	.....	.....	.....	.....	.....	.....	.....	38,812	38,812
Total.....	560,329	13,019	45,232	28,972	552,646	71,837	106,929	108,699	376,457	1,864,120
Average.....	50,939	1,183	4,523	4,824	61,405	11,973	9,721	9,882	31,371	155,343

Table prepared April 30, 1959.

TABLE 39  
(Federal-Provincial Unemployment Assistance Agreements)  
PERSONS ASSISTED, BY MONTH AND PROVINCE, FISCAL YEAR 1957-58

Month	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
April 1957	39,009	2,019		3,604	37,476	10,204	10,591		20,324	123,227
May 1957	37,241	1,483		3,547	37,239	9,627	9,756		20,076	118,969
June 1957	33,199	1,312		3,005	36,567	8,508	8,754		19,104	110,449
July 1957	30,520	1,068		2,883	36,110	8,526	8,727		19,009	106,843
August 1957	29,690	1,135		2,894	35,847	8,580	8,722		19,035	105,903
September 1957	34,093	1,299		2,960	36,493	8,651	8,480		18,831	110,807
October 1957	39,112	1,269		3,113	37,715	9,190	9,451		19,646	119,496
November 1957	44,914	1,363		3,949	38,862	10,214	10,390		21,521	131,213
December 1957	47,367	1,548		4,974	45,145	11,398	12,198		22,911	145,541
January 1958	49,280	1,585	5,111	5,082	53,515	12,088	12,265	11,017	23,523	173,466
February 1958	47,953	1,671	4,971	4,979	57,875	12,577	12,169	11,779	24,049	178,023
March 1958	45,799	1,724	5,083	5,800	61,623	12,785	12,873	11,845	24,522	182,054
Total	478,177	17,476	15,165	46,790	514,467	122,348	124,376	34,641	252,551	1,605,991
Average	39,848	1,456	5,055	3,899	42,872	10,196	10,365	11,547	21,046	133,833

Table prepared April 30, 1959.

## CIVIL DEFENCE

### *Introduction*

The two most important developments in Civil Defence during the year were: (1) the appointment of Lt.-Gen. Howard D. Graham, former Chief of General Staff of the Canadian Army, to undertake, on behalf of the Government of Canada, a comprehensive survey of all aspects of this country's Civil Defence policy and program; and (2) the decision of the Federal Government to reorganize and re-allocate funds in Civil Defence following the receipt of the Graham Report.

General Graham's survey, which began in June, 1958, concerned itself primarily with questions relating to Civil Defence policy for the future rather than an examination of Civil Defence as it was carried out at that time. It was completed and submitted to the Cabinet before the end of the 1958 calendar year.

On March 23, 1959, the Prime Minister, the Right Honourable John G. Diefenbaker, stated in the House of Commons that the Government had reviewed the arrangement of responsibility for Civil Defence tasks in the light of the Graham Report and further studies by military and civilian officers.

The Prime Minister explained that the Army would undertake primary and direct responsibility for the warning of attack, the location and monitoring of explosions and radio-active fallout, the assessment of damaged areas, decontamination and clearing of such areas, and rescue of the injured.

The health and welfare aspects of Civil Defence are to remain the responsibility of the Department of National Health and Welfare but with increased financial and technical assistance to provincial authorities.

The Federal Government also offered increased support for special expenditures incurred by provincial and local authorities in making preparation for wartime traffic control and the preservation of law and order, this to be administered by the RCMP, who will also provide whatever technical and general advice may be necessary.

Henceforth, provincial and local costs of approved civil defence projects will receive financial assistance to the extent of 75 per cent instead of the previous 50 per cent, this division applying to projects in the fields of National Health and Welfare, the RCMP, and to other provincial and local projects.

The Emergency Measures Organization, attached to the Privy Council Office, will co-ordinate the work of other agencies in the field of civil defence measures and planning as it already does in respect of other civilian measures to prepare for war. Federal responsibilities not allocated to other departments or services will be assumed by this organization. Liaison with provincial governments on particular functions will be the responsibility of those dealing with such functions, but EMO will be charged with general responsibility for contact with the provincial authorities.

The Prime Minister emphasized that the Federal Government believed that civil measures to prepare for the possibility of nuclear war must be taken as seriously as are military measures.

### *General*

The function of Civil Defence is to minimize the effects of a nuclear attack by peacetime plans and procedures that would prepare the population to protect

itself in event of a national emergency; to take the necessary survival measures following an attack by providing medical, welfare and other assistance to the civilian population.

For practical reasons, these functions, at the operating level, must be carried out by the provincial and municipal authorities where the detailed knowledge of local conditions and the general responsibility for the welfare of its citizens rests. The Federal Government's role is that of guiding, advising and co-ordinating, at the provincial and local levels, so that planning is uniform and conforms with the generally accepted appreciation of the attack potential; that supplies of material and equipment are available at provincial and municipal centres; and that instructors and key personnel are trained in the various specialized fields.

During 1958-59, Civil Defence authorities continued their efforts to increase the scope and efficiency of all services. Continued assistance at the federal level was given to provinces and communities to develop organizational, functional and operational plans essential in the event of a national emergency.

In early October, 1958, a meeting of the Federal-Provincial Advisory Committee was held at which ministers, or their representatives, from the ten provinces were present. This committee is established on a continuing basis and is concerned with proposed Civil Defence policy between the federal and provincial authorities.

Civil Defence authorities continued close liaison with their United States counterparts. A "U.S.—Canada Civil Defence Standing Planning Group" was formed and the first meeting was held at the Office of Civil and Defence Mobilization headquarters in Battle Creek, Mich., in March, 1959, providing an opportunity for a joint meeting of all interested Civil Defence technical services. A system of direct liaison between representatives of technical services at FCDHQ and corresponding services in OCDM was established and maintained during the year.

### **Compensation Agreements**

To enrolled Civil Defence workers, all provinces, with the exception of Quebec and Prince Edward Island, have executed compensation agreements with the Federal Government, permitting compensation to be made on a 50-50 sharing basis for death or injury while in training. On January 9, 1959, authority was granted to extend these agreements to cover enrolled Civil Defence workers while engaged in operations arising out of a natural disaster.

### **Financial Assistance Program**

This program is the means whereby provinces and/or municipalities may become eligible to receive financial assistance from the Federal Government for the purpose of improving and strengthening Civil Defence. Their requirements take the form of projects and may include provision related to or providing for:

- (i) organization, administration and training expenditures, including training exercises;
- (ii) equipment and clothing, including uniforms, required for administration, training and operations for which there is normally no peacetime use other than for Civil Defence;
- (iii) construction and alterations for Civil Defence purposes;
- (iv) operational equipment having a peacetime use.



The federal contribution towards approved projects is 50 per cent of actual expenditures with the exception of operational equipment coming under Classification (iv) above. In this instance, the Federal Government matches the provincial contribution. As a result of an announcement made by the Prime Minister in the House of Commons on March 23, 1959, the Federal Government will henceforth accept 75 per cent of approved project expenditures instead of 50 per cent as before.

As of March 31, 1959, all provinces, with the exception of Quebec, were participating with the Federal Government in the Financial Assistance Program. Of the \$2 million provided, projects were approved to the total value of \$2,759,167, with the federal commitment being \$1,279,609. Actual federal expenditures for this period were \$1,050,342. This corresponded favourably with federal expenditures in the fiscal years 1956-57 and 1957-58 when they were \$813,686 and \$967,896 respectively.

While the Province of Quebec did not participate financially in this program, it did encourage several municipalities in the Province to submit projects to the value of \$47,535. Effective April 1, 1958, the federal commitment was increased from 25 to 50 per cent irrespective of provincial participation and the projects submitted by Montreal, Pointe Claire, Sillery and the Saguenay Civil Defence Board (30 municipalities including Chicoutimi and Arvida) qualified for recovery of 50 per cent of their approved actual expenditures or approximately \$19,000.

Provincial quotas, participation of municipalities, provinces and the Federal Government are tabulated below, together with the total of projects approved and payments made in connection therewith:

## PROJECTS APPROVED

Province	Federal Quota	Municipal	Provincial	Federal	Total	Actual Federal Expenditure
Newfoundland.....	\$ 45,658	\$.....	\$ 33,745.00	\$ 33,745.00	\$ 67,875.68	\$ 24,875.68
Prince Edward Island.	10,921	.....	815.82	815.82	1,631.64	815.82
Nova Scotia.....	91,197	14,404.66	51,731.42	64,795.57	130,931.65	49,260.81
New Brunswick.....	68,749	17,413.25	43,333.25	60,746.50	121,493.00	38,084.81
Quebec.....	682,886	23,767.50	.....	23,767.50	47,535.00	5,517.70
Ontario.....	798,716	223,546.18	385,456.18	580,252.33	1,189,254.69	449,231.77
Manitoba.....	130,325	16,537.85	60,774.65	77,312.50	154,625.00	60,636.44
Saskatchewan.....	96,873	16,469.51	51,431.25	67,067.59	134,968.35	50,812.64
Alberta (a).....	146,133	56,390.51	174,280.62	146,133.13	376,804.26	146,133.12
British Columbia (b).....	224,973	160,227.90	149,232.46	224,972.80	534,433.16	224,972.79
Totals.....	.....	528,757.36	950,800.65	1,279,608.74	2,759,166.75	1,050,341.58

Note: (a), (b), combined municipal and provincial expenditures exceed the Federal quotas.

### **Siren Installation, Line Rental and Maintenance**

Prior to November 28, 1957, costs respecting siren installation, line rental and maintenance were shared with the various provinces and municipalities concerned. In order to ensure maximum economy and adequate efficiency and control, the Minister was authorized (PC 1957/17/1575 of November 28, 1957) to assume full financial responsibility on a reimbursement basis for the future costs of siren installation, line rental and maintenance. For the fiscal year ending March 31, 1959, federal expenditures amounted to \$43,180, \$29,717 and \$4,935 for siren installation, line rental and maintenance respectively.

### **Supplies and Equipment**

During the eight year period ending March 31, 1959, supplies and equipment costing \$1,762,183, were provided from federal funds to the provinces for training purposes or for use in exercises as detailed below:

	<i>COST</i> <i>April 1, 1951</i> <i>March 31, 1958</i>	<i>COST</i> <i>April 1, 1958</i> <i>March 31, 1959</i>	<i>COST</i> <i>April 1, 1951</i> <i>March 31, 1959</i>
PROVINCES			
B.C.	\$ 261,727	\$ 57,129	\$ 318,856
Alta.	169,131	4,348	173,479
Sask.	74,340	1,801	76,141
Man.	150,650	27,301	177,952
Ont.	453,491	81,570	535,062
Que.	249,547	7,119	256,666
N.B.	60,304	1,125	61,429
N.S.	112,076	1,178	113,254
P.E.I.	5,258	33	5,291
Nfld.	44,044	3	44,047
GRAND TOTAL	1,580,573	181,610	1,762,183

Items of issue included a limited number of fire pumpers, rescue vehicles and equipment and radiological detection instruments for training purposes as well as warning sirens.

### **Information Services Division**

For the second consecutive year, National Civil Defence Day, held on September 19, was the highlight of the public information activities in Civil Defence during the fiscal year. This year's campaign was similar in programming to that in 1957. English and French promotional aids, a newsletter series and a special Civil Defence Day promotional guide were produced and distributed by the Division as an aid to Civil Defence Directors participating in the nationwide observance.

Increased public service support by national and local news media, television advertisers and federal and provincial government departments indicated more than ever that Civil Defence Day was accomplishing its purpose of acquainting Canadians with the work and application of the CD program in their own communities.

A total of 3,700,675 pieces of Civil Defence informational literature was distributed by the Division during the year. In addition to the ten Civil Defence

Day promotional items, there were nine new printing projects completed and another 11 undertaken. Fourteen Civil Defence pamphlets and manuals were re-printed and 30 miscellaneous printing projects completed.

The filmstrip *Warden Services* was completed during the year and delivery received. Preliminary draft for the filmstrip commentary has been completed. A special Civil Defence Day newsclip on Civil Defence in emergency was produced and made available to all provincial co-ordinators and first and second run theatres in Canada. The shooting script for a 20-minute documentary film on *Civil Defence in Canada* has been completed.

Twenty-seven Civil Defence displays are now available to provincial and municipal co-ordinators, plus a series of small window displays. With duplication of the more popular uni-pak units, plus the 20 in the window display series, displays available now number 47. Six new displays were constructed during the year.

The services of the Division were again available for the provision of training aids to the Canadian Civil Defence College and the Headquarters Training and Education Section. Technical photographs, slides and photo stories were made available to all headquarters services as required.

Twelve 10-minute recorded radio programs on Civil Defence were again included on the Department's regular dramatic series *Here's Health*. Two special programs on rural and urban Civil Defence training were also produced for Civil Defence Day with 180 recordings being made available to provincial co-ordinators for redistribution to radio stations within their provinces.

For the seventh consecutive year, the Federal Civil Defence Bulletin was produced and its 16,000 copies circulated among Civil Defence volunteers across Canada. A new digest version of the Bulletin was introduced this year and has been well received. The photographic services of the Division were used extensively for publicity purposes with numerous prints being produced for Canadian news media, independent publishing houses and Civil Defence headquarters as required. During the year the Division was responsible for the publicity promotion of ten major conferences held at the Canadian Civil Defence College.

### **Plans and Operations**

The Planning Section, in collaboration with other services, continued to review plans and procedures in all fields of Civil Defence. In particular, during the past year, the organization and principles governing the operation of military mobile support columns and Civil Defence task groups was studied, and an exercise carried out with representatives from the provinces and Armed Services. As a result of these and other studies, a system of command, control and communication, in regard to re-entry operations, was evolved and issued to provinces for guidance.

Civil Defence evacuation route signs were standardized and are included in the *Manual on Uniform Traffic Control Devices for Canada*, a joint project of the Canadian Good Roads Association and the Canadian section of the Institute of Traffic Engineers. These signs will be installed by provincial and municipal traffic authorities as time and circumstance permit.

Plans are being developed for the organization, and employment during a war emergency, of a Civil Defence Air Service. An advisory committee composed of representatives of interested government departments and members of National

Air Associations was formed. This service will operate in the same manner as other Civil Defence services, conforming to the practices of the Civil Defence organization within each province.

Studies were continued with respect to remedial evacuation from high intensity "fallout" areas, radiation reporting, bomb location, large area monitoring and fuel supply. Civil Defence operational zoning within the boundaries of each province was also initiated.

### Communications

A part-time teletype circuit from Federal Civil Defence Headquarters in Ottawa, to Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland, commenced operation in May, 1958. This supplements and completes the circuit, installed in previous years, to link Ottawa with Ontario and the four western provinces.

High power sirens have been distributed and installation is progressing as follows:

	<i>Issued</i>	<i>Installation</i>
Victoria .....	7	Contract being negotiated
Vancouver .....	18	Contract being negotiated
Edmonton .....	1	Tests completed
Winnipeg .....	11	Contract being negotiated
Windsor .....	9	Contract has been placed
Toronto .....	48	25 installed. Contract for 23 being negotiated
Saint John, N.B. ....	1	Contract being negotiated
Halifax .....	7	Installation nearly complete

Ninety-eight high power sirens are in stock for remaining target areas. An additional 100 are on order and due for delivery by May, 1959, for possible expansion of the warning system in target areas and for issue to non-target areas having a population of 30,000 or more. The latter requirement being primarily for fallout warning.

The field trials of the transportable broadcasting stations were completed in May, 1958, and these are housed at the Civil Defence College, Arnprior.

### Warning

As the fiscal year came to an end, a new National Attack Warning System became operational. This system permits the reporting of hostile aircraft or submarine plots from Air Defence Command Headquarters, St. Hubert, direct to all provincial and target area Civil Defence headquarters throughout Canada as well as to federal Civil Defence headquarters and the Canadian Civil Defence College, Arnprior. Some zone headquarters are also included on the system. For reasons of economy the system is maintained on an "engineered" rather than a fully active basis, but tests have proved the system can be activated within an hour. The system also allows for direct communication between the five RCAF Air Defence Control Centres and the Provincial Civil Defence headquarters lying within their areas. Operational procedures have been established and ten practice exercises have been held resulting in preliminary training being given to Civil Defence operations personnel at all terminals.



Agreement was reached in principle during the year, on the establishment of a large area monitoring system for Canada. Posts for reporting nuclear detonations and radio-active intensities manned by Ground Observer Corps personnel and the RCMP have been established and training of personnel begun. Provision of training instruments by federal headquarters has kept pace with the training of personnel and the selection of operational instruments is well advanced.

A new system of Civil Defence alert signals, replacing the old air raid warnings of red, yellow and white, was adopted and standard public instructions established and agreed by federal Civil Defence headquarters, the Department of National Defence and the United States Civil Defence authorities. There now exists no substantial difference between alert signals in force in the United States and Canada, i.e.,—the alert, a steady note for three to five minutes on CD sirens, which is the signal to turn on the radio for "official" Civil Defence instructions; and the Take Cover, a rising and falling siren note, which means that an attack is imminent and to take cover immediately.

### **Welfare**

The Welfare Planning Group continued to concentrate on developing emergency operational procedures.

Surveys and reception plans were carried out at federal expense in Nova Scotia and Ontario, continuing the policy adopted in 1957. This work has engendered a considerable amount of activity in the lodging field in these two provinces.

Considerable progress was made in the organization of the Welfare Services in the provinces. At the end of the year, five provinces, namely Nova Scotia, Ontario, Manitoba, Saskatchewan and British Columbia had directors of Welfare Services. New Brunswick had a part-time director and the remaining four provinces were actively seeking means of organizing the Service. As a result of this progress, for the first time it was possible to hold a joint Federal/Provincial Welfare Conference which provided the basis for inaugurating closer joint planning and training.

In the field of Emergency Feeding, emphasis was placed on educating the public to prepare to survive on their own food resources for the first seven days of an emergency. The pamphlet *Your Evacuation Pack (Your Emergency Pack)* was especially well received.

The Provinces of Nova Scotia and British Columbia have now distributed sufficient Registration and Inquiry Kits to operate this service in an emergency.

A successful Personal Services Institute for Social Workers was held in Vancouver as a result of which organization in the entire province has progressed materially. Eight specialist welfare courses were given at the College. Precise, training aids and operational forms were made available to the provinces.

### **Health Service**

Federal Civil Defence Health Service received, correlated and disseminated information on the health aspects of Civil Defence. The revision of the health service manual was continued. Manuals on *Primary Treatment Services*, *Hospital Disaster Planning* and *Laboratory and Blood Techniques for Pharmacists* in Civil Defence were published. Other manuals are completed and awaiting publication or final revision.

Some time ago, seven hospital disaster institutes were held across Canada for the purpose of studying hospital disaster planning and stimulating hospitals to prepare plans. These institutes were attended by senior officials of some 238



public general hospitals. One area in which an institute was not held was that of the Provinces of Manitoba and Saskatchewan. Arrangements have been made to hold the eighth disaster institute in Saskatoon on the 28th and 29th May, 1959.

Replies received from 477 public general hospitals to a questionnaire indicated that more than two-thirds of these had prepared or were preparing disaster plans.

A most successful conference was held under the joint chairmanship of the Order of St. John of Jerusalem and Civil Defence Health Service on the role of the first aid worker in Civil Defence and first aid instruction. The conference was attended by senior instructors of the St. John Ambulance Association.

Attention continued to be directed to health problems associated with mass movements of population and their settlement in reception areas.

Progress was made in having included in the courses of study of schools of medicine, instruction in Disaster Medicine. Schools of pharmacy continued to give active support to Civil Defence by training their students in their role in Civil Defence. Continuing support was also received from all provincial nurses associations, instruction in disaster nursing being included in the basic curriculum for student nurses. Members of the Health Service, on invitation, lectured to students at the Ontario Veterinary College on the role of the veterinarian in disaster.

Courses were provided at the Civil Defence College for physicians and dentists, nurse educators and nurse specialists, pharmacists and casualty simulation instructors. During the year, the first course for veterinarians was held.

The integration of the Civil Defence aspects of home nursing with the home nursing programs of the Canadian Red Cross Society and the St. John Ambulance Association increased the number of people receiving this training.

During the period under review, the Special Weapons Section of the Health Service made considerable progress. In collaboration with the Civil Defence Radiological Defence group, they have completed a number of directives for the control of radiation hazards. They have also been active in attending and participating in the work of Defence Research Board panels and the writing of a manual on biological warfare was undertaken.

During the year, authority was received to spend \$625,000 for the purchase of the initial supply of transportable 200 bed improvised hospitals. Orders were placed for as much of these supplies as possible. Progress continued with the procurement of items for the stockpile of essential health supplies. Eleven million dollars has been authorized for this program and the value of supplies received to date is approximately \$6,000,000.

With the co-operation of the Department of National Defence, the health services began a program of functionally packaging health supplies for long term storage.

## **Engineering**

The functions of engineering, hitherto part of the Plans and Operations Section, were transferred to a new Engineering Section established on December 1, 1958. Since its inception, this Section has been mainly involved in preparing the background, format and basic requirements for two projects currently under consideration:

- (a) The design of a range of refuges for incorporation in all types of building, and,
- (b) The engineering portion of a shelter/evacuation study.

Another successful Engineers Forum was held during March and a separate report for this issued.

### Training and Education

The federal Civil Defence training program in Canada commenced in 1951 and as of March 31, 1959, over 17,500 men and women have been trained in various Civil Defence subjects at courses under federal auspices.

During the past year, 3,249 persons received Civil Defence training at the Canadian Civil Defence College and, in addition, a small number of key personnel took Civil Defence training sponsored by the Federal Government at the Civil Defence Staff Colleges in the United Kingdom and the United States.

The types of courses conducted during 1958-59 were:

- Staff Courses (including all phases of Civil Defence Orientation, Planning and Operations)
- Indoctrination Courses in Civil Defence for Doctors, Dentists and Nurses
- Welfare Courses in Organization, Emergency Feeding, Emergency Lodging, Personal Services and Registration and Enquiry
- Indoctrination Conference of Mayors and Reeves
- Forums in Communication and Engineering
- Radiological Defence Courses
- Techniques of Instruction Courses
- Rescue Instructors Courses

Special courses in Civil Defence Indoctrination and Rescue were again conducted for the training of personnel of the Armed Services. The Department of National Defence has also taken advantage of the regular types of courses to train a large number of officers and warrant officers in Civil Defence procedures.

The training of radiological defence personnel was emphasized this year by the provision of radiological training kits to provinces and municipalities for the training of radiation monitoring personnel. In addition, special courses were conducted for fire and police instructor personnel to acquaint them with peace-time hazards of radiation as well as radiological procedures in time of war.

The Civil Defence strength reported by the provinces as of January 1, 1959, is as follows:

<i>Provinces</i>	<i>A Full-time</i>	<i>B Volunteers</i>	<i>Trained to date</i>	<i>A-B Total</i>
British Columbia .....	18,670	42,375	64,445	61,045
Alberta .....	16,407	12,699	23,289	29,106
Saskatchewan .....	17,197	21,573	30,877	38,770
Manitoba .....	6,645	9,342	7,720	15,163
Ontario .....	35,370	46,173	89,370	81,543
Quebec .....	20,283	11,124	20,641	31,407
New Brunswick .....	1,486	4,997	3,186	6,483
Nova Scotia .....	2,135	8,777	7,732	10,912
Prince Edward Island .....	87	486	573	573
Newfoundland .....	7	310	1,017	317
	118,287	157,856	248,850	275,319
Civil Service .....	5	3,804	3,000	3,809
Civil Defence .....	192	.....	192	192
Federal H.Q. and College .....				
	118,484	161,660	252,042	279,320

The numbers trained include not only Civil Defence trainees at all levels, but also full-time personnel whose work causes them to be part of their local Civil Defence effort and who require a minimum of Civil Defence instruction. Many

volunteers, after taking Civil Defence training, retire from active participation and, in consequence, the total active strength is often less than the number actually trained.

### **Exercise Co-operation II**

The national test exercise "Co-operation II" was held on May 3, 4, and 9. All provinces participated to train Control Centre personnel and to assist in the development of operational procedures. OCDM assisted in this exercise by activating their Control Centre.

### **Canadian Civil Defence College**

The Canadian Civil Defence College was established in Arnprior during 1953. The function of the College is to train key Civil Defence personnel at federal, provincial and local levels and to train instructors in the various aspects of Civil Defence in order that provincial and local training programs may be conducted by personnel qualified in the most up-to-date aspects of Civil Defence procedures.

During the year, 3,249 Civil Defence personnel received instruction at the College. A provincial breakdown is as follows:

British Columbia .....	288
Alberta .....	215
Saskatchewan .....	146
Manitoba .....	193
Ontario .....	537
Quebec .....	116
New Brunswick .....	87
Nova Scotia .....	106
Prince Edward Island .....	11
Newfoundland .....	48
Armed Forces .....	641
Civil Service Civil Defence .....	5
Federal Employees .....	110
RCMP .....	9
Others .....	5
Group Visits .....	732
<b>Total</b> .....	<b>3,249</b>

Sixty-one courses and seven conferences were held at the College plus special visits by 20 groups who were given a brief indoctrination in Civil Defence planning and progress. Members of the College staff assisted Atomic Energy of Canada in decontamination work as was required at the Chalk River Plant.

### **Civil Service Civil Defence**

The Civil Service Civil Defence organization continued its efforts throughout the year with emphasis on building evacuation plans. Exercises in the nature of fire drills were carried out in many of the governmental buildings in order to test these plans.

Members of CSCD assisted in exercise Co-operation II by supplying certain personnel to man the Federal Control Centre at Arnprior.

# ADMINISTRATION BRANCH

The third branch of the Department—the Administration Branch—is composed of the Departmental Secretary's Division, Information Services Division, Legal Division, Departmental Library, Personnel Division, Purchasing and Supply Division, and the Research and Statistics Division. As all these Divisions serve the entire Department across Canada and overseas, the development of activities in a number of fields during the past year made increasing demands upon them.

The explosion in October which did such extensive damage to the Jackson Building, in which the headquarters of the Department was located, and which necessitated the relocation of many divisions of the Department in emergency quarters, created serious problems and much additional work for this Branch.

## DEPARTMENTAL SECRETARY'S DIVISION

The activities of the Departmental Secretary's Division continued to fall into two broad classes—those which the Departmental Secretary carried out personally and those which were undertaken largely by the staff of the Division.

Included among the first group were (a) assisting the Minister and the Deputy Ministers in the long and complicated procedure related to the preparation and approval of the departmental estimates from the time they were first drafted until they were approved by Parliament; (b) acting as financial adviser to the Department in respect of many aspects of its work; (c) acting as the Deputy Ministers' substitute with respect to the approval of accounts payable, travel claims, requests for encumbrances, requests for transfer between allotments, submissions to Council and to Treasury Board, and other financial documents; (d) preparing material for tabling in Parliament; and (e) carrying out many special projects which were assigned from time to time.

The second group of responsibilities was borne by the various sections of the Division as follows:

The Registry Services continued to be responsible for records management throughout the Department. This involved the operation of a central registry and seven sub-registries in Ottawa, and the provision of advice, assistance and a certain degree of supervision in respect of records in many departmental establishments across Canada. During the year it was necessary to establish an additional sub-registry to serve some of those Divisions which were moved to new locations following the explosion. The records retirement program continued to be aggressively pursued, resulting in considerable savings in space, equipment and staff time. Mail, messenger and truck services at Head Office continued to be provided by this Section.

The Accounts and Estimates Section continued to assist in providing financial advisory assistance to the Department and in relieving Directors and Chiefs of the burden of maintaining accounting records and of routine administrative duties related to financial matters. This Section also carried out much of the detail involved in the preparation of departmental estimates and continued to act as liaison between the Department and the Treasury Office serving it.



The work of the Parliamentary Papers and Correspondence Section consisted largely of preparing replies to the many thousands of letters and enquiries which were received on a wide range of health and welfare subjects. This Section was also responsible for processing, distributing, and recording all submissions, Orders in Council, Treasury Board Minutes, supplementary lists, Treasury Board circular letters, and other documents, and for the daily reading of all parliamentary papers and the excerpting, distributing, and indexing of items of interest to this Department.

In the Duplicating Section almost 16 million duplicating impressions were produced, with the many related operations representing a correspondingly heavy workload. Particular attention was given in the past year to the maintenance of the Department's addressograph lists which totalled about 200,000 names.

A central source of typing assistance was again provided to the entire Department in Ottawa by the Secretarial Services. As well, all typing and matrice work required in the preparation of material for reproduction in the Duplicating Section was done by the Secretarial Services. Varsity facilities continued to be available.

In addition, the Departmental Secretary's office acted as an information centre for the entire Department and carried out numerous special projects which normally fall to the lot of the secretariat of a large organization.

## INFORMATION SERVICES DIVISION

During the year, the Information Services Division continued to carry out its assigned functions in the fields of health education, public information and public relations.

### Health Education

In October, 1958, the seventh federal-provincial health educators' conference was held, at which the newly-appointed health educator for Nova Scotia was present, marking for the first time the presence of a health educator in every province. There were two or more representatives from three provinces, an indication of the importance attached to the conference by the delegates.

Preliminary planning was done on a project for the scientific evaluation of health education materials and discussions held in the Department.

Each year a larger proportion of the funds available for health publications must be spent on reprints. Necessary stocks were replenished and new publications were put into production. *Keep Your Home Free From Poisonings* and *Fraud* were completed for the Food and Drug Directorate and at the year's end, *A Candid Look at Cosmetics* and *Did You Get Your Vitamins Today?* were being evaluated. Five recruitment posters for the Mental Health Division were produced, as were a child safety poster dealing with poison, and a poster depicting a good noon meal. Two new posters on dental health were ready for printing. The texts for new booklets *Protect Your Vision* and *Ten Steps to Dental Health* were out for evaluation. The revised version of the *Dental Health Manual* was published in French. Other revisions included *Care of the Premature Infant* and the child training folders, *Fear* and *Obedience*. Considerable work was done on the booklet *Everyday Exercise*.



An Eskimo calendar, to be distributed by the medical team on the C. D. Howe, was prepared, and a leaflet on the wise buying of food for Indians and Eskimos was prepared for distribution by Indian agents.

Publicity materials, such as dodgers, stuffers, book-marks, stickers, shopping bags, place mats and posters, were produced for Civil Defence Day.

In all, 207 separate printing jobs were handled, of which 189 were completed by the end of the fiscal year.

A new film on nutrition, *Mystery in the Kitchen*, was produced in English.

Two new three-panel displays on child safety and dental health were developed at the request of the provincial health educators and were out for evaluation. Exhibits were produced on poison control, the work of the Food and Drug Directorate, the Department's nursing services, Indian and Northern Health Services dental officers, home accidents, maternal and new born care in Canada, the assistance to general practitioners of health grants and hospital insurance, and Canada's health and welfare services.

During the year, 23,000 requests for material were received, in spite of the fact that distribution is mainly in bulk to provincial health departments. Over 9,900,000 health publications were distributed: 7,354,000 in English and 2,554,000 in French. The increase over the previous year was more than one and one half million pieces.

### Public Information

Produced and distributed were ten issues of *Canada's Health and Welfare*, comprising 720,000 copies, 84,650 copies of the *Civil Defence Bulletin*, 3,190 copies of the *National Health Radio Notes*, 5,340 copies of *Press Fillers*, and 6,240 copies of *Canada's Health Column*.

Other periodicals produced include *Occupational Health Bulletin*, *Occupational Health Review*, *Canada's Mental Health*, *Nutrition Notes*, *Food and Drug News*, *Indian Health Newsletter*, and the *Dental Health Newsletter*.

The *Here's Health* series of radio dramas completed ten years of uninterrupted broadcasting by 108 radio stations from coast to coast.

A continuing process of procuring, screening and evaluating films was carried out. Fifteen were added to the National Health Film Library, three to the National Medical and Biological Film Library and one to the National Welfare Film Library. During the year, 1,654 films were booked from the National Health Film Library, 511 from the National Medical and Biological Film Library, and 80 from the National Welfare Film Library.

In the Biological Photographic Laboratory, 11,200 photographic prints, 2,650 negatives and 1,000 lantern slides were made.

Colour printing was introduced with a number of prints being produced for Civil Defence. Dental posters were also made. Large colour transparencies showing food and drug protection were produced for display purposes.

The Laboratory of Hygiene required a number of sensitivity plates showing zones and inhibitions to be photographed. Photographs of chromatograms under reflected light and ultra violet light in both black and white and colour were produced for that Laboratory and for the Food and Drug Directorate. A number of photomicrographs for a tissue culture study was taken for the Virus Laboratory.

Also produced, in addition to a full program of scientific work for the departmental laboratories, were many slides and photoprints for use on television, theatre screens and various types of publication.

## **Public Relations**

Liaison with the press, radio and television was carried out by means of press releases, the answering of enquiries from the press, the facilitation of interviews for radio and TV, and the supplying of background information.

Assistance was given to a number of people visiting Canada under the Technical Assistance program of the Colombo Plan, UNESCO and other sponsorship, and lectures on the work of the Department were given to various groups. Many enquiries from other government departments and from the public were answered.

Members of the Division represented the Department at the Canadian Public Health Association, the American Public Health Association, the Canadian Conference on Social Work, the Canadian Dental Association, the International Congress of Paediatricians, the Conference of the College of General Practice, the National Conference on Social Work, and the Association des médecins de langue française. An exhibit was sent to the International Conference on Social Work in Tokyo.

## **LEGAL DIVISION**

The Legal Division provides legal services to the Department in matters within departmental responsibility and concern. These services cover the furnishing of legal advice and opinions, including advice respecting prosecutions under the Food and Drugs Act, the Opium and Narcotic Drug Act, the Family Allowances Act and the Old Age Security Act, and the instructing of counsel in connection therewith. The services of the Division include also the preparation of contracts and other legal documents, the interpretation of statutes and regulations and the preparation of submissions to the Governor General in Council and to the Treasury Board. Performance of these services entails the maintenance of liaison with other departments and agencies of government including the Department of Justice and, in matters relative to the Opium and Narcotic Drug Act and the Food and Drugs Act, the Royal Canadian Mounted Police.

Assistance was provided by the Division during the year in the development of material and preliminary drafts required in preparing legislation, including certain amendments and revisions required to give full effect to the Hospital Insurance and Diagnostic Services Act and Regulations. Officers of the Division participated in numerous conferences with hospital insurance and other authorities of many of the provinces with a view to assisting in the development of corresponding hospital insurance legislation at the provincial level, the completion of cost-sharing agreements, and the establishment of technical procedures for their implementation.

The services of the Legal Division were also required in the revision and consolidation of certain of the regulations administered by the Department, preparatory to their submission to the Department of Justice, in the collection of overpayments made under the Family Allowances Act and the Old Age Security Act, and in the recovery of compensation for the loss of our damage to Crown property.

The Legal Division provided consultative legal services to a number of voluntary health agencies and organizations, and the officers of the Division represented the Department on various boards concerned with policy and administrative matters in which the Department has some interest or responsibility.

At the request of the World Health Organization, the Legal Adviser provided further consultative services to the Government of Trinidad in the revision of public health legislation in that country.

## **LIBRARY**

The Departmental Library continued the selection, acquisition and organization of reference and technical books, serials, pamphlets and government documents on all subjects related to the Department's work for collections in Ottawa and in field establishments. The usual services of centralized ordering and cataloguing, answering reference questions and advising about authorities and sources of information were maintained.

The explosion of October 25, 1958, did little lasting damage to the material in the Jackson Building Library, but some books and journals on loan in less protected quarters were lost. The problem of immediately finding several thousand feet of shelves for the Jackson Building collection was solved by the Dominion Archivist who very kindly placed a stockroom in the Public Records Building at the disposal of the Library as well as facilities for the removal of glass fragments from books, journals, and other material. Subsequently, small collections were made up and placed in various divisions until such time as most of the collection can return to the Jackson Building. Further material is withdrawn and loaned as required. The library staff moved into the Food and Drug Library where space was created by dismantling a stockroom and placing that collection in the Public Records Building. The usual work has continued but with a great increase in the number of telephone calls.

During the year, considerable time and thought were given to aspects of the organization of the Columbo Plan Medical Book Scheme whereby 76 libraries of medical schools in Southeast Asia may each request medical books to the value of \$2,500 for two years. Valuable assistance was given by Canadian firms representing medical publishers with respect to procurement, packing and shipping. A classified list of 600 books for medical school libraries was compiled, part of this work being done in various university and hospital libraries in Montreal, Toronto, Kingston and London.

## **PERSONNEL DIVISION**

The Personnel Division continued to provide guidance in matters of personnel management and organization to the various directorates and divisions. It represented the Department in all personnel matters, carrying on a continuous day-to-day relationship with the Civil Service Commission, the Treasury Board staff, the Comptroller of the Treasury, other government agencies and employee associations.

A slight increase in the number of positions in the Department was due primarily to an increase in the general level of departmental activity.

Despite improvement in the recruiting situation, shortages still existed in the more specialized fields of science. This reflected a non-competitive salary structure for scientific and engineering positions, particularly those which required post-graduate training and some years of experience. It was also difficult to recruit people experienced in public administration.

The scope of the Division's work is indicated by the following tables showing geographical distribution of staff and changes involving professional, technical and other staff.

TABLE 40

(Personnel Division)

## STAFF CHANGES WITH SPECIAL REFERENCE TO PROFESSIONAL CLASSES

Classification	Authorized positions March 31/59	Vacant positions March 31/59	Appointments during the fiscal year	Terminations during the fiscal year	Approximate terminations per 100 positions
Physicians.....	331	24	28	37	11
Dentists.....	22	6	4	4	.....
Registered Nurses.....	705	75	198	213	30
Chemists.....	113	7	13	13	11
Bacteriologists.....	37	4	9	3	.....
Pharmacists.....	7	1	2	.....	.....
Laboratory Technicians.....	19	1	7	2	.....
Nutritionists.....	18	6	5	6	.....
X-ray Operators.....	35	3	3	3	.....
Food and Drug Inspectors.....	67	2	4	2	.....
Public Health Engineers.....	28	5	3	.....	.....
Social Workers.....	26	2	1	2	.....
Information Officers.....	9	1	3	2	.....
All Other Classes.....	3,499	350	765	708	20
Total.....	4,916	487	1,045	995	20



TABLE 41  
(Personnel Division)  
GEOGRAPHICAL DISTRIBUTION OF ESTABLISHED FULL-TIME  
POSITIONS—MARCH 31, 1959

Location	Welfare Branch (including Civil Defence)	Health Branch		Administration Branch	Total
		Indian and Northern Health Services	Other		
Ottawa.....	112	65	619	354	1,150
Yukon and Northwest Territories .....		142			142
British Columbia.....	68	521	60		649
Alberta.....	59	527	8		594
Saskatchewan.....	56	208	6		270
Manitoba.....	49	180	26		255
Ontario.....	375	394	51		820
Quebec.....	221	33	234		488
New Brunswick.....	42	2	14		58
Nova Scotia.....	53	5	72		130
Prince Edward Island.....	11		1		12
Newfoundland.....	31		12		43
United States.....			4		4
Overseas.....			169		169
Total.....	1,077	2,077	1,276	354	4,784



## PURCHASING AND SUPPLY DIVISION

The Purchasing and Supply Division continued to carry out its responsibility for procuring materials and equipment, entering into contracts, and arranging services of all types for the various directorates, divisions, laboratories, hospitals, far-flung Arctic posts of the Indian and Northern Health Services, and the overseas offices of the Immigration Medical Service. The increase in volume of work and responsibility continued during the past year as reflected in the reports of the other branches of the Department.

The amount of technical and scientific equipment purchased for the various laboratories in Ottawa increased, particularly that developed to meet new advances in the electrical, electronic and nuclear radiation fields of instrumentation.

The high cost of food and food products, and of transportation required more stringent supervision of purchasing in these areas.

The Civil Defence Division continued to have exceptional requirements, a large number of special projects being initiated and completed by this Division during the year. One hundred large Civil Defence sirens were purchased and several large contracts were entered into for radiation instruments.

Approximately 13,750 requisitions were processed, comprising almost every commodity and involving orders placed with manufacturers and suppliers in Canada, the United States, the United Kingdom, and continental Europe. The Departmental Stores Section in Ottawa, carrying inventory and stationery requirements, handled 7,000 shipments totalling 246,434 lbs. for delivery to and from Ottawa. The Division also secured from the major oil companies 518 credit cards for the use of those driving departmental vehicles. Over 400 parking permits were secured for employees at Ottawa.

Planning and refinement of inventory procedures were carried out during the year. Inventory officers visited a number of regional headquarters and other field establishments, assisting in the implementation of methods and procedures. The information available from inventory records has become increasingly valuable to the various directors requiring cost analysis and reporting.

## RESEARCH AND STATISTICS DIVISION

The program of the Division was considerably broadened during the year. While the major emphasis remained on research connected with development of hospital insurance, a number of comprehensive studies were carried out in a variety of fields and there was a pronounced increase in the advisory and technical services provided to other divisions of the Department. The Division's work in the field of technical assistance to under-developed countries was considerably expanded. Annual reports on health and welfare services for the *Canada Year Book* and for the United Nations and other agencies continued to be prepared as required.

### **Hospital Insurance**

The Division continued to work closely with the Health Insurance Division in hospital insurance program development. National and provincial cost estimates for hospital insurance were completed for 1958 and 1959 to provide a basis for calculation of federal advance contributions to the provinces under the Hospital Insurance and Diagnostic Services Act. Field trips were made to all provinces to

obtain detailed statistical information, and hospital insurance legislation proposed by all provinces participating in the plan was reviewed prior to the preparation of federal-provincial agreements. Consultant services were supplied to a number of provinces.

In collaboration with the Dominion Bureau of Statistics, schedules and instructions were prepared for reporting of hospital data concerning beds, utilization, special services, personnel and training facilities. A continuing analysis of cost estimates as compared to claims was established.

Material was prepared for the federal-provincial technical conferences on hospital insurance held in October, 1958, and April, 1959. Members of the Division participated in institutes on hospital insurance statistical and accounting processes held in the Atlantic provinces. The Division also worked with the Canadian Hospital Association in the development of a new *Canadian Hospital Accounting Manual*. A special study was made of the financial operation of Canadian hospitals.

The Director presented a paper on "The Effect of Socio-Economic Trends on the Practice of Medicine" at the annual meeting of the Canadian Medical Association.

Two new bulletins on voluntary hospital and medical care, *Voluntary Medical Insurance in Canada, 1957, Summary Data* and *Voluntary Hospital and Medical Insurance in Canada, 1956* were prepared, as well as a supplement to *Health Services for Public Assistance Recipients in Canada*. A study, *Hospital Care in Transition*, largely completed during the year, was designed to summarize the principal characteristics of Canadian hospital services, including their financing, at the commencement of the federal-provincial hospital insurance program.

### **Radiation**

A plan was prepared for the investigation of variability of radio-active strontium estimates from dried milk samples. Studies were made of the reliability of estimates of radio-active strontium in terms of counter variation and other experimental factors, of data from hospital diagnostic X-ray examinations and of the records of the film monitoring service. Various sources of radiation exposure were reviewed. Assistance was given to the Occupational Health Division in planning a study of the health of uranium miners.

The Principal Research Officer (Biostatistics) acted as advisor to the Canadian delegation at the fifth meeting in April, 1958, and the sixth meeting in March, 1959, of the U.N. Scientific Committee on the Effects of Atomic Radiation. The Division was represented at the tenth International Congress on Genetics at McGill University in August, 1958, and the fourth International Biometric Conference and Symposium on Biometrical Genetics at Ottawa in August-September, 1958. Members also participated in meetings in April, 1958 and August, 1958 of the Departmental Technical Committee on the Biological Effects of Ionizing Radiation.

### **Epidemiological Studies**

A number of studies were carried out or continued in co-operation with the Epidemiology Division. The long-term study of mortality of D.V.A. pensioners in relation to smoking habits and occupational and residence history was continued. A follow-up study of pelvimetry examinations at an Ottawa hospital was commenced to determine possible relationships to leukemia in offspring. Preliminary discussions were held with respect to a proposed survey and evaluation of local health services.

### **Mental Health**

The results of the national survey of psychiatric services in general hospitals, carried out at the request of the Mental Health Division, were published in the *Canadian Medical Association Journal* of May 15, 1958. Comparisons of discharge rates at the Verdun and Brandon mental hospitals were carried out in co-operation with the Mental Health Division to determine trends and possible influence of new treatment methods. Some work was done on a study of discharges from an Ottawa psychiatric clinic and on a psychiatric experiment being carried out at the Allan Memorial Institute. A comprehensive new study of mental health services in Canada was commenced.

### **Chronic Illness**

Research on chronic disease carried out for departmental use, included a survey of existing provisions for the chronically ill and gaps in services for the Health Grant Administration and three studies on home care services in Canada and other countries for a Departmental Committee on Home Care.

### **Indian and Northern Health**

Continuing analysis was commenced of medical care records of Indian and Northern Health Services physicians and nursing personnel. Data were coded and prepared for statistical analysis covering demographic character of the population, disease entities and the types of medical care involved. Analysis was made of the cost of medical care.

### **Civil Defence Health**

The Division advised on the planning of a follow-up survey of the results of indoctrination of doctors and dentists in Civil Defence and a questionnaire was drafted for the survey. Work was done on both the preparation of schedules for and analyses of results of surveys regarding preparedness and disaster planning of hospitals.

### **Dental Health**

Further analyses were compiled for the Dental Health Division in connection with the Sarnia-Brantford-Stratford water fluoridation studies and a Division statistician carried out field work in Stratford for this survey. An analysis was made of the results of a stannous fluoride experiment carried out by the Dental Health Division and plans made for new study of this topical application. The Principal Research Officer (Biostatistics) presented a paper to the Canadian Public Health Association meeting in Vancouver in May, 1958, on the statistical aspects of the appraisal of the British Columbia dental health surveys.

### **Other Health Studies**

The bulletin, *The Administration of Public Health in Canada*, compiled from the health survey reports prepared by the provinces under the Health Survey Grant of the National Health Program, and additional research carried on in the Division, was published. As part of a continuing study of health legislation, a summary was prepared of 1958 legislation related to public health administration, environmental health, hospitals, nursing homes, mental health and tuberculosis services, and health services personnel. A history of the Canadian Sickness Survey



was prepared. At the request of the Pan-American Sanitary Bureau and with the co-operation of provincial health departments, information was compiled on health conditions and services in Canada, to be used in the Four Year Report on Health Conditions published by the World Health Organization. The Occupational Health Division was assisted in the planning of a study of the health of fluorspar miners and regarding statistical analyses of particle size analyses in other occupational health research. The Nutrition Division was aided in work on Eskimo health surveys and in a survey of the nutrition of older persons. Assistance was given to the Physical Fitness Consultant in planning an analysis of an extensive series of fitness tests results. The Principal Research Officer (Biostatistics) served as a consultant to the Department of Veterans Affairs in a review of hospital statistics, with particular reference to morbidity data.

### **Health Personnel**

Memoranda were prepared on medical school enrolment and graduates in relation to physician supply, on the capacity and location of medical schools and on the population physician ratio in relation to physicians in private practice. The Division continued to assist the Montreal Notre Dame Hospital in its study of activities of nursing personnel and the Civil Service Health Division in its survey of the activities of nursing councillors. Preparations were made, in co-operation with the Canadian Medical Association and l'Association des médecins de langue française du Canada, for a survey of physicians to be held across Canada in 1959.

### **Rehabilitation of Disabled Persons**

The bulletin, *Rehabilitation Services in Canada—Part II, Provincial and Local Programs*, was published for distribution to voluntary and governmental agencies serving disabled persons and to the National Advisory Committee on the Rehabilitation of Disabled Persons. The bulletin described programs and services in each province and their historical development. A second volume, *Part I, General Review*, a survey of major national, public and voluntary medical and vocational rehabilitation programs, and programs for special groups and specific disabilities, was well advanced by the end of the year. Progress in rehabilitation in Canada and other countries was kept under review and progress noted in developments in the United States and other countries.

### **Income Security**

The Supervisor of the Income Security Section was seconded for the greater part of the year to work with Dr. R. M. Clark of the University of British Columbia on the report, *Economic Security for the Aged in the United States and Canada*, a comprehensive report on old age security systems in both countries.

The Director who, for a number of years, has served as a member of the Committee of Social Security Experts of the International Labour Organization, acted as Rapporteur at the 1958 meeting of the Committee.

Bulletins on old age security in Australia and New Zealand were revised and a study begun of the basic changes contemplated in retirement pensions in the United Kingdom with a view to republication of the bulletin on old age security in that country. The Division continued to be represented on the Interdepartmental Committee on Pension Plan Statistics. Basic information maintained in the Division on social security expenditures at different levels of government in Canada and other English speaking countries was kept up-to-date.

Reports on disability allowances in Canada were issued for the years 1956 to 1958 and the Division continued to assemble program statistics on unemployment assistance.

## **Welfare**

At the request of the United Nations, a paper was prepared for the *Human Rights Year Book* on provisions in Canada which recognize the rights of mothers and children to special care and assistance, and the equal right to social protection of children born out of wedlock. This was published in Canada in the special issue on human rights of the *Labour Gazette*, November, 1958.

The bulletin, *Deserted Wives' and Children's Maintenance Legislation in Canada*, examined the problems and nature of desertion and statutory federal and provincial provisions for the protection of wives and children when the services of the bread-winner are lost. An appendix, on the factors involved in estimating the extent of desertion, included a review of the types of public aid available to deserted families. A second bulletin, *Child Welfare in Canada*, outlined the structure and scope of programs for the protection and care of children, and discussed other provisions contributing to a comprehensive service. Draft chapters of *Adoption Legislation in Canada* were forwarded to the provinces for approval and work was carried forward on the third edition of the *Mothers' Allowances* bulletin and on a comprehensive study of federal and provincial measures affecting living accommodation for the elderly. A preliminary draft was prepared of a bulletin on social assistance in Canada.

Study of child welfare reporting was continued, in co-operation with a committee of the Canadian Welfare Council and provincial directors of child welfare, with particular attention during the year to reaching a common terminology for reporting on adoption.

Advisory services were also provided to different agencies on such questions as problems related to national statistics on desertion, homemakers' services, proposed fee schedules for family agencies and selection of welfare material for films and radio.

Estimates were supplied of demand for personnel for social services in certain areas of social work. The Supervisor of the Welfare Section served on the National Committee on Personnel of the Canadian Welfare Council.

Memoranda on various aspects of family and child welfare and social aid were prepared for departmental purposes, for other agencies and for foreign and international organizations. These subjects included: courts of jurisdiction in desertion cases, responsibility in law of parent for child, questions regarding children of divorced families and of widowed heads of families, changes in the concept of orphanhood as reflected in statistical and other data, methods of financing homes for the aged, community development programs, training of social welfare personnel, and standards in homes for the aged.

The Director served on the Committee of Social Science Research of the International Association on Gerontology; the National Agency Committee of Community Funds and Councils of Canada; and, with the Supervisor of the Welfare Section, on the Interdepartmental Committee on Older Workers and the Executive of the National Committee on Aging of the Canadian Welfare Council. The Supervisor of the Welfare Section acted as departmental observer on the National Committee on the Welfare of Immigrants and was a member of the Editorial Board of Canadian Welfare, the departmental Film Review Committee, and participated



in the work of an ad hoc committee on the functions, organization, relationships and finance of the Canadian Conference on Social Work. Other research officers served on the departmental Committee on Home Care, the National Committee on Desertion, the French Commission of the Canadian Welfare Council and on the Editorial Board of the *Bien-être Social Canadien*. Material was provided for the Planning Committee of the First Manitoba Conference on Aging and the responsible officer attended the Conference, held in Winnipeg in 1958.

### ***Technical Assistance***

The Director completed his assignment as research consultant and co-ordinator for the Pan-American Sanitary Bureau survey team which conducted an evaluation of public health services in Costa Rica. He also acted as a consultant for the Pan-American Sanitary Bureau in a study of hospital services in Jamaica. The Division continued to arrange training programs for persons coming to Canada for study in the field of social welfare under the auspices of the Colombo Plan, the United Nations and other agencies. Considerable time was devoted to the planning of ways in which technical assistance in the welfare field might be strengthened. In this work and in the arrangement of training programs for persons coming to Canada, the Division received the usual generous co-operation of agencies connected with welfare in Canada.

# DEPARTMENT OF NATIONAL HEALTH AND WELFARE

## DIRECTORY OF DEPARTMENTAL OFFICERS

### MINISTER

HONOURABLE J. WALDO MONTEITH, P.C., M.P., F.C.A.

*Executive Assistant, C. Keedwell*

*Private Secretary, D. H. Dunsmuir*

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*Deputy Minister of National Health and Welfare (Health)*

G. D. W. Cameron, M.D., C.M., D.P.H., LL.D., F.R.C.P.

*Deputy Minister of National Health and Welfare (Welfare)*

G. F. Davidson, B.A., M.A., PH.D., LL.D.

### HEALTH BRANCH

#### FOOD AND DRUG DIRECTORATE:

FOOD AND DRUG DIRECTORATE—*Director, C. A. Morrell, M.A., PH.D., F.R.C.S.*

*Associate Director, L. I. Pugsley, B.A., M.Sc., PH.D.*

*Assistant Director (Scientific Services), R. A. Chapman, B.S.A., M.Sc., PH.D.*

*Assistant Director (Inspection and Enforcement Services), A. Hollett, M.Sc.*

*Chief, Proprietary or Patent Medicines Division, P. Soucy, Phm.B.*

#### INDIAN AND NORTHERN HEALTH SERVICES DIRECTORATE:

*Directorate, P. E. Moore, M.D., D.P.H.*

*Associate Director, H. A. Procter, D.S.O., M.D., PH.D.*

*Assistant Director, W. B. Brittain, B.Sc.*

#### HEALTH SERVICES DIRECTORATE:

*Director, K. C. Charron, M.D., C.M.*

*Principal Medical Officer, Environmental Health and Special Projects, E. A. Watkinson, M.D., C.M., D.P.*

*Principal Medical Officer, Health Insurance, E. H. Lossing, M.D., M.P.H.*

*Principal Medical Officer, National Health Grants, G. W. Wride, M.D., D.P.H.*

*Principal Medical Officer, Research Development and International Health, B. D. B. Layton, M.D., M.P.H.*

#### SPECIAL HEALTH SERVICES:

Blindness Control Division, *Chief, J. H. Grove, M.D.*

Child and Maternal Health Division, *Chief, J. F. Webb, B.Sc., M.D., D.P.H.*

Dental Health Division, *Consultant, H. K. Brown, D.D.S., D.D.P.H.*

Epidemiology Division, *Chief, E. W. R. Best, M.D.*

Hospital Design Division, *Chief, H. E. Hughes, B. Arch., A.R.I.B.A., M.R.A.I.C.*

Laboratory of Hygiene, *Director, J. Gibbard, B.S.A., S.M., F.R.S.C.*

Medical Rehabilitation and Disability Advisory Service, *Consultant, B. Primeau, M.D.*

Mental Health Division, *Chief, J. E. Gilbert, M.B., B.S., M.R.C.S., L.R.C.P.*

*Chief Nursing Consultant, D. M. Percy, R.R.C., R.N.*

Nutrition Division, *Chief, L. P. Pett, B.S.A., M.A., Ph.D., M.D., C.P.H.*

Occupational Health Division, *Chief, T. H. Patterson, M.D., D.P.H., M.P.H.*

Public Health Engineering Division, *Chief, J. R. Menzies, B.A.Sc., C.L.S.C.E.*

Radiation Protection Division, *Clinical Consultant, W. J. D. Cooke, M.D.*

**MEDICAL ADVISORY SERVICES:**

*Principal Medical Officer, R. G. Ratz, M.B.*

Civil Aviation Medicine Division, *Chief, W. A. Prowse, M.D., C.M., D.P.H.*

Civil Service Health Division, *Chief, E. L. Davey, M.D., D.P.H.*

Quarantine, Immigration Medical and Sick Mariners Services, *Chief, W. H. Frost, M.D., D.P.H.*

**NARCOTIC CONTROL DIVISION:**

*Chief, R. C. Hammon, Phm.B.*

Narcotic Drugs, *Canadian Representative to UN Commission, K. C. Hossick.*

**WELFARE BRANCH**

*Executive Assistant, Welfare, Mrs. D. B. Sinclair, O.B.E., B.A., M.A., LL.D., D.Sc. Soc., L.H.D. (on leave).*

*Consultant, Fitness and Recreation, Doris W. Plewes, M.A., B. Paed., Ed.D.*

**FAMILY ALLOWANCES AND OLD AGE SECURITY DIVISION:**

*National Director, J. Albert Blais*

*Regional Directors—*

Newfoundland, L. C. Abbott, St. John's

Prince Edward Island, J. E. Green, Charlottetown

Nova Scotia, J. G. Parsons, Halifax

New Brunswick, A. Nicholson, Fredericton

Quebec, J. M. L. Lafrance, Quebec

Ontario, F. C. Jackson, Toronto

Manitoba, W. F. Hendershot, Winnipeg

Saskatchewan, R. J. G. Mitchell, Regina

Alberta, H. C. L. Gillman, Edmonton

British Columbia, W. R. Bone, Victoria

Yukon and Northwest Territories, Miss Norma O'Brien, Ottawa

**OLD AGE ASSISTANCE, ALLOWANCES FOR BLIND PERSONS, AND ALLOWANCES FOR DISABLED PERSONS:**

*Director, J. W. MacFarlane.*

**CIVIL DEFENCE**

*Deputy Co-ordinator, G. S. Hatton, C.B., D.S.O., O.B.E.*

*Chief Administrative Officer, M. P. Cawdron, M.A., B.Sc.*

**ADMINISTRATION BRANCH**

Secretary's Division, *Departmental Secretary, Olive J. Waters*

Information Services Division, *Director, Harvey W. Adams*

Legal Division, *Legal Advisor, R. E. Curran, Q.C., B.A., LL.B.*

Library, *Departmental Librarian, Miss M. D. Morton, B.H.Sc., B.L.S.*

Personnel Division, *Chief, E. J. Preston, B.A., M.A.*

Purchasing and Supply Division, *Chief, J. A. Hickson*

Research and Statistics Division, *Chief, J. W. Willard, Ph.D., M.A., M.P.A., A.M.*

**TRANSLATION OFFICE**

*Chief, G. A. Sauve*

**TREASURY OFFICE**

*Chief, T. F. Phillips*

**DIRECTORY OF DEPARTMENTAL ESTABLISHMENTS****ADMINISTRATIVE OFFICES****OTTAWA**

Jackson Building, Bank Street  
 Birks Building, Sparks Street  
 Booth Building, Sparks Street  
 Garland Building, Queen Street  
 No. 1 Temporary Building, Wellington Street  
 No. 3 Temporary Building, Wellington Street  
 Trafalgar Building, Queen Street  
 Daly Building, Mackenzie Avenue  
 Copeland Building, Albert Street

**CIVIL DEFENCE COLLEGE**

ARNPRIOR, Ont.—P.O. Box 2050

**FAMILY ALLOWANCES AND OLD AGE SECURITY**

ST. JOHN'S, Nfld. .... 29 Buckmasters' Field  
 CHARLOTTETOWN, P.E.I. .... Dominion Building  
 HALIFAX, N.S. .... Ralston Building  
 FREDERICTON, N.B. .... Federal Building  
 QUEBEC, Que. .... 51 Boulevard des Capucins  
 TORONTO, Ont. .... 122 Front Street West  
 WINNIPEG, Man. .... 138 Portage Ave., East  
 REGINA, Sask. .... Dominion Government Building  
 EDMONTON, Alta. .... Federal Building  
 VICTORIA, B.C. .... Federal Building

**FOOD AND DRUG LABORATORIES**

OTTAWA, Ont. .... Tunney's Pasture  
 HALIFAX, N.S. .... Ralston Building  
 MONTREAL, Que. .... 379 Common Street  
 TORONTO, Ont. .... 27-39 St. Clair Ave., East  
 WINNIPEG, Man. .... Aragon Building  
 VANCOUVER, B.C. .... Federal Building

**FOOD AND DRUG OFFICES**

OTTAWA, Ont. .... Tunney's Pasture  
 HALIFAX, N.S. .... Ralston Building  
 CHARLOTTETOWN, P.E.I. .... Confederation Building  
 SAINT JOHN, N.B. .... 250 Prince William Street  
 SYDNEY, N.S. .... Federal Building  
 ST. JOHN'S, Nfld. .... T. A. & B. Society Building  
 QUEBEC, Que. .... 375 Dorchester Street  
 THREE RIVERS, Que. .... Post Office Building  
 SHERBROOKE, Que. .... 315 King Street West  
 MONTREAL, Que. .... 379 Common Street  
 TORONTO, Ont. .... 27 St. Clair Ave., East

BELLEVILLE, Ont. ....	12 Bridge Street East
HAMILTON, Ont. ....	National Revenue Building
KITCHENER, Ont. ....	Dominion Public Building
LONDON, Ont. ....	Dominion Public Building
WINDSOR, Ont. ....	Dominion Public Building
SUDBURY, Ont. ....	Federal Building
PORT ARTHUR, Ont. ....	33 Court Street South
WINNIPEG, Man. ....	Aragon Building
SASKATOON, Sask. ....	307 London Building
REGINA, Sask. ....	713 Motherwell Building
CALGARY, Alta. ....	Customs Building
EDMONTON, Alta. ....	Federal Public Building
KAMLOOPS, B.C. ....	345 Victoria Street
VANCOUVER, B.C. ....	Federal Building
VICTORIA, B.C. ....	805 Government Street

### IMMIGRATION MEDICAL SERVICE OFFICES

#### Canada

GANDER, Nfld. ....	Gander Airport
STEPHENVILLE, Nfld. ....	Harmon Field Airport
SYDNEY, N.S. ....	Marine Hospital and Reserve Airport
HALIFAX, N.S. ....	Immigration Building, Pier 21
MONCTON, N.B. ....	Moncton Airport
SAINT JOHN, N.B. ....	Immigration Building, Pier 9
QUEBEC, Que. ....	Champlain Harbour Station, Wolf's Cove and Immigration Hospital, Quebec- West
MONTREAL, Que. ....	150 St. Paul Street, West
DORVAL, Que. ....	Dorval Airport
TORONTO, Ont. ....	175 Bedford Road and Malton Airport
WINDSOR, Ont. ....	Windsor Airport
LONDON, Ont. ....	London Airport
WINNIPEG, Man. ....	Immigration Hall, 83 Naple St., and Winnipeg Airport
EDMONTON, Alta. ....	Edmonton Airport
VANCOUVER, B.C. ....	Immigration Building, foot of Burrard Street, and Sea Island Airport

#### Overseas

LONDON, England ....	61 Green Street, Mayfair, W.1
BELFAST, Northern Ireland ....	12-20 North Street
BRISTOL, England ....	5-18 Wine Street
GLASGOW, Scotland ....	18 Woodlands Terrace, C.3
LEEDS, England ....	5-7 New York Road
LIVERPOOL, England ....	34 Moorfields, Liverpool 1
BRUSSELS, Belgium ....	230 rue Royale
PARIS, France ....	38 Avenue de l'Opera
ROME, Italy ....	Via Nemorense, 90
THE HAGUE, Holland ....	12 Carelvan Bijlandtlaan
COPENHAGEN, Denmark ....	Canadian Legation, Vestagervej 5



BERLIN, Germany .....	Canadian Government Immigration Mission, Berlin-Zehlendorf, Berliner Str. 25
COLOGNE, Germany .....	Canadian Embassy, Visa Section, Buchheimerstrasse, 64-66 Winer Platz, Cologne-Muelheim
MUNICH, Germany .....	Am lillienberg, 1-2, Munich 8
STUTTGART, Germany .....	Marquart Building, 20 Koenigstrasse
HAMBURG, Germany .....	Canadian Government Immigration Mission, Admiralitaetstrasse, 46
BERNE, Switzerland .....	43 Neuengasse, Interhaus, 2nd Floor
VIENNA, Austria .....	Canadian Embassy, Medical Section, Tuchlauben 8, Vienna
ATHENS, Greece .....	Canadian Embassy, Visa Office, 54A Queen Sofia Avenue
HELSINKI, Finland .....	Canadian Legation, Medical Department, Bulevardi 10
NEW DELHI, India .....	c/o High Commissioner for Canada, 32 Nizamuddin E., New Delhi

### SICK MARINERS CLINICS AND HOSPITALS

HALIFAX, N.S. ....	Immigration Building, Pier 21
SYDNEY, N.S. ....	Marine Hospital
SAINT JOHN, N.B. ....	Immigration Building, Pier 9
QUEBEC, Que. ....	Champlain Harbour Station, Wolfe's Cove
MONTREAL, Que. ....	150 St. Paul Street West
VANCOUVER, B.C. ....	Immigration Building, Foot Burrard Street

### QUARANTINE STATIONS AND SUB-STATIONS

GANDER, Nfld. ....	Gander Airport
ST. JOHN'S, Nfld. ....	Marshall Building
HALIFAX, N.S. ....	Pier 21
SAINT JOHN, N.B. ....	Pier 9 and Quarantine Hospital, Lancaster
QUEBEC, Que. ....	Champlain Harbour Station, Wolfe's Cove, and Quarantine Hospital, Quebec-West
MONTREAL, Que. ....	150 St. Paul Street West and 320 Baldwin Street
DORVAL, Que. ....	Dorval Airport
BAIE COMEAU, Que. ....	Sub-Station
SEVEN ISLANDS, Que. ....	Sub-Station
RIMOUSKI, Que. ....	Sub-Station
PORT ALFRED, Que. ....	Sub-Station
THREE RIVERS, Que. ....	Sub-Station
SOREL, Que. ....	Sub-Station
VICTORIA, B.C. ....	Sub-Station
VANCOUVER, B.C. ....	Immigration Building and Sea Island Airport William Head, B.C.

**INDIAN AND NORTHERN HEALTH SERVICES**

EASTERN .....	4th Floor Booth Building, Ottawa
CENTRAL .....	803-9 Confederation Building, Winnipeg
SASKATCHEWAN .....	735 Motherwell Building, Regina
ALBERTA .....	Charles Camshell Indian Hospital, Edmonton
BRITISH COLUMBIA .....	4824 Fraser Street, Vancouver

**LABORATORY OF HYGIENE**

OTTAWA, Ont. ....	Tunney's Pasture
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**OCCUPATIONAL HEALTH LABORATORIES**

OTTAWA, Ont. ....	45 Spencer Street
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**PUBLIC HEALTH ENGINEERING DISTRICT OFFICES**

TRURO, N.S. ....	P.O. Box 608, Federal Building
MONCTON, N.B. ....	Post Office Building
MONTREAL, Que. ....	150 St. Paul Street West
ST. CATHARINES, Ont. ....	Dominion Building
PORT ARTHUR, Ont. ....	Post Office Building
ST. BONIFACE, Man. ....	Post Office Building
REGINA, Sask. ....	Motherwell Building
EDMONTON, Alta. ....	Federal Building
VANCOUVER, B.C. ....	Begg Building, 1110 West Georgia Street

**RADIATION PROTECTION**

OTTAWA, Ont. ....	305 Vimy Building
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# ESTABLISHMENTS OF THE DEPARTMENT OF NATIONAL HEALTH AND WELFARE OUTSIDE OTTAWA

- A** Family Allowances and Old Age Security  
**□** Food and Drug Establishments  
**+** Sick Mariners Clinics and Hospitals  
**M** Immigration Medical Service Offices  
**Q** Quarantine Stations and Sub Stations  
**E** Public Health Engineering District Offices



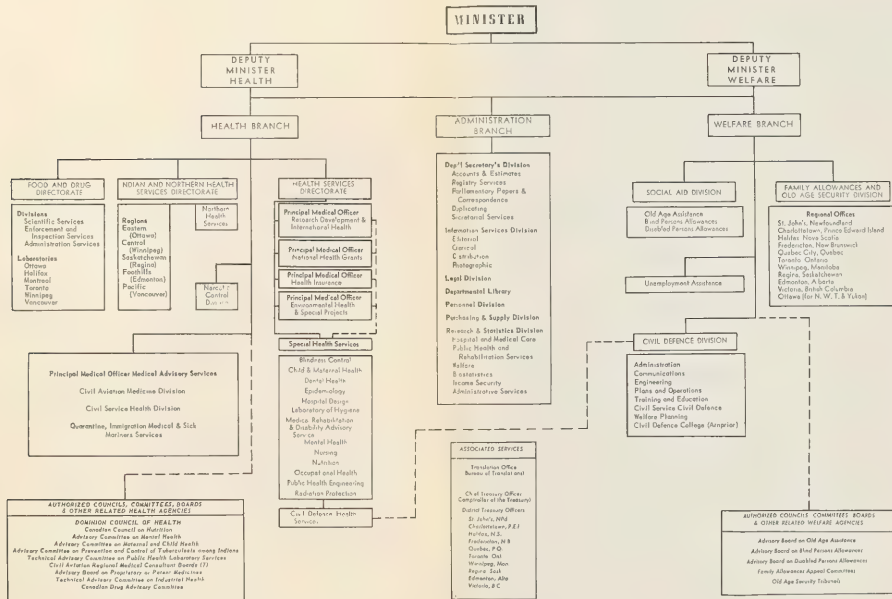








# DEPARTMENT OF NATIONAL HEALTH & WELFARE





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